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WORLD AGRICULTURE - CONDITIONS AND TRENDS *

World agriculture has begun to share in the general economic recovery. This is indicated by higher agricultural prices and their more favorable relation with nonagricultural prices, and is reflected in increased purchasing power of the farmers. The rise in prices has been due essentially to a more or less simultaneous increase in world demand and a reduction in world supplies of agricultural products. The improvement in demand has resulted from increased economic activity in a large number of countries. In some cases, however, much of this increased activity can be attributed to rearmament. The reduction in supplies has been due both to unfavorable weather conditions in numerous countries, particularly in North America, and to restriction of production by governments. An outstanding feature of the world economic situation is to be found in the increasing government intervention everywhere in behalf of agriculture. This intervention resulted, during the depression period, in a larger share of the national income of some countries going to agriculture. Recovery conditions would seem to call for a redirection of government planning along the line of increased production at lower costs.

These are a few of the many interesting lines of thought developed in a report recently issued by the International Institute of Agriculture on the world agricultural situation in 1935-36. The following statement is a reproduction of a major part of the first chapter of this report. The significant omissions are indicated in footnotes.

The period dealt with in this survey was marked by signs of widespread economic revival. After years of unprecedented depression, intermittent improvement could be observed in many parts of the world since 1933-34. It became somewhat more pronounced in the course of 1934-35; though then, insofar as agriculture was concerned, its real nature and its extent were still uncertain. Prices, indeed, showed a tendency to

* This article reproduces in part the first chapter of part I of the annual report of the International Institute of Agriculture, "The World Agricultural Situation in 1935-36." The report as a whole consists of two parts: the first entitled "World Agriculture" and the second "Agricultural Policy and Conditions in the Different Countries." The chapter given here was contributed by Dr. George Pavlovsky, Chief, Bureau of Agricultural Economics and Sociology, International Institute.

rise in many countries; but this rise, being largely due to short crops, did not always bring about a genuine improvement in the economic position of the farmers. In 1935-36, however, the tide had apparently turned. The revival extended over a far wider field, and among the various factors to which it was due those making for genuine recovery came into greater prominence. At the time of writing, in the spring of 1937, the tendencies which asserted themselves then would still appear to hold good.

At the present juncture, it would hardly be safe to say more or to venture into forecasts of future developments. The causation of the revival is exceedingly complex, and the general conditions under which it is developing now are too uncertain and troubled. All we can attempt here is to try to pick out the principal factors which are contributing to the improvement and, by examining the nature and the extent of their effects, to seek to gain some insight into the present situation and its possible developments.

There is no need to dwell here upon the political background of the world economic situation during the period under review. Politically, the situation was troubled.

In the prevailing atmosphere of apprehension, the economic situation became distinctly influenced by the fear of war. The whole world began feverishly to rearm; and rearmament, with all it implies, directly and indirectly, for the economic system, became an increasingly important factor in promoting the revival of economic activities. Superimposed upon other forces which worked for economic revival, rearmament gave a powerful impetus not only to the industries directly concerned in the production of war material, but to practically all branches of production, industrial and agricultural.

Though, in the end, it does not add to the community's wealth and represents a destructive employment of labor and capital, at the present moment rearmament must thus be considered as one of the principal factors of the recovery. Along with government intervention, brought to bear upon those sectors of the economic system which could not cope with the depression unaided, rearmament was instrumental in cutting through the vicious circle in which world economy had found itself involved since 1929.

In discussing the origins of the agricultural depression in the first issues of this Commentary, we have had occasion to point to the complexity of its causation. We have seen that, in bringing about the depression, structural changes of far-reaching importance and lasting effect combined with factors accidental in their origin and ephemeral in their influence. The present recovery also depends upon a vast array of forces different in their origins and in the range and duration of their effects.

In the course of the last few years the world economic organization has undergone profound changes. With the nature of these changes, mainly due to the development of government intervention and planning accompanied by the growing restriction of competitive international trade, we have dealt in our preceding surveys, and we shall not return to this subject here. The structure of world economy and its working have been deeply affected by these changes. They were mostly called forth by the necessity of dealing with emergencies as they arose, but eventually they developed into a vast network of restrictions and regulations, to which it became fashionable to apply the name of planned economy. Intervention and planning were largely responsible for the improvement in the economic position of agriculture in many countries, and in many cases they changed its structure so profoundly that their effects were bound to be lasting. Indeed, even if the improvement achieved may, in some cases, rest upon more or less precarious foundations, the organization of the industry itself has been so deeply affected by the methodical intervention of governments, that a return to the starting position is generally difficult to conceive.

Moreover, the political position, in spite of the efforts being made in some quarters to revive international economic cooperation, was such that the tendencies towards economic autarchy were distinctly encouraged. Indeed, it must not be forgotten that the exuberant growth of the tendency towards economic autarchy as a guarantee of political sovereignty was due to the painful experience of the Great War. The ebb and flow of the efforts to achieve economic self-sufficiency have reflected, since the war, the changes in the political situation. When the political atmosphere is so tense with apprehension of war, as it is now, the striving for economic autarchy forms an essential part of the policy of rearmament, and economic self-sufficiency tends again to loom large in the eyes of the government. 1/

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Evidence of Recovery in Agriculture

In examining the recovery in world agriculture, we shall have to begin with the price situation. Indeed, as we know, in agriculture, as distinguished from the manufacturing industries, the depression did not involve a diminution of productive activities. Far from it, the heavy incidence of the depression upon the agricultural industry was largely due to the farmer's inability to adapt the supply of his products to the diminution in effective demand. In our preceding surveys of the agricultural situation, dealing with the origins and the course of the crisis in world agriculture, we have had occasion to show how, beginning with wheat and other cereals, the depression had eventually spread to all the other farm products, bringing their prices down to unremunerative levels and upsetting the balance between agricultural and industrial prices. It was this lack on the part of the farmers of control over production that had

1/ Ed. Note - A section dealing with the general revival of economic activities has been omitted.

forced the governments in most countries to intervene with a view to adapting agricultural production to the dwindling demand and thus restoring the purchasing capacity of the agricultural population. And, indeed, apart from bad crops, due to natural causes, it was only as a result of government intervention and planning that, in some countries at least, agricultural production was diminished to an extent which permitted the headlong fall in the prices of agricultural products to be checked.

Though it would not be right to say that the agricultural crisis was essentially a question of prices, one can certainly say that in the prices it found its expression. Accordingly, in looking for signs of recovery in world agriculture, we should in the first instance consider the movement of agricultural prices. In these, in the course of the period under review, there has been a marked improvement, as may be seen from table 1, in which index numbers of prices of the principal agricultural products from 1932 to 1936 are given.

Thus, after having touched the bottom either in 1932 or in 1933, the prices of the principal agricultural products began to improve, and the rise, in most cases, was continuous up to the end of 1936. Indeed, the same tendency would appear to be maintained in the first quarter of 1937. The index numbers of wholesale prices of agricultural products, which are available for some countries, point to the general character of the improvement. See table 3.

The general trend of prices of agricultural products in the course of the period under review would thus appear to point to a widespread recovery in the conditions of the agricultural market. The real position of the agricultural producer depends, however, not so much upon the absolute level of prices he obtains for his products, as upon the margin available between these prices and the aggregate cost of production and marketing, including all the goods and services he has to buy for his farm and his household. The evidence of the index numbers of prices of farm products is not, therefore, in itself conclusive. For conclusive proof of recovery in the position of agriculture we should accordingly look to the relation between the trends of prices of what the farmer sells and of what he buys from others. Such information is available for a few countries only, but, though it lacks uniformity and is far from being complete, it can give valuable indications as to the general trend of the evolution which is taking place in the economic position of the farmers.

* * * * *

A closer study of the data in table 2 shows that in all the countries for which the necessary data are available, save Poland, the advance in the prices of agricultural products in the course of the last few years was far more marked than it was in the various elements of the costs of agricultural production or in the prices of manufactured goods.

Table 1. Index numbers of prices of certain agricultural products
(1926-1928 = 100)

| Commodity | 1926 1928 | 1932 | 1933 | 1934 | 1935 | 1935 2d half | 1936 1st half | 1936 2d half |
|---|--------------|------|------|------|------|--------------------|---------------------|--------------------|
| Wheat - No. 1 Northern Manitoba, in Winnipeg | 100 | 38.4 | 42.1 | 51.9 | 58.6 | 60.1 | 56.1 | 74.2 |
| Wheat - No. 2 Hard Winter, in Chicago | 100 | 37.4 | 53.2 | 69.4 | 75.5 | 78.5 | 74.7 | 86.2 |
| Wheat - Barletta, in Buenos Aires | 100 | 53.0 | 45.8 | 50.4 | 59.7 | 65.2 | 80.7 | 89.3 |
| Maize - Yellow Plata, in Buenos Aires | 100 | 63.5 | 55.6 | 78.6 | 65.7 | 62.0 | 65.6 | 79.7 |
| Oats - No. 2 White Western, in Winnipeg | 100 | 49.9 | 50.1 | 66.1 | 65.7 | 60.3 | 58.5 | 78.7 |
| Barley - No. 4 Western, in Winnipeg | 100 | 45.8 | 45.8 | 62.7 | 51.1 | 44.3 | 49.4 | 83.5 |
| Rice - No. 2 Burma, in Rangoon | 100 | 52.0 | 37.5 | 39.3 | 49.0 | 50.9 | 45.6 | 48.3 |
| Coffee - No. 7 Rio, in New York | 100 | 49.3 | 41.3 | 59.3 | 47.2 | 44.7 | 46.0 | 65.1 |
| Raw sugar - Java, in Surabaya | a/100 | 46.0 | 42.3 | 41.8 | 44.0 | 44.1 | 44.8 | 44.8 |
| Tea - Ordinary Pekoe from Ceylon, in London | b/100 | 42.9 | 60.5 | 83.2 | 72.3 | 75.1 | 80.1 | 78.4 |
| Beef - Argentine chilled, in London | c/100 | 79.8 | 76.3 | 77.4 | 77.2 | 78.6 | 74.8 | 79.8 |
| Mutton - New Zealand wethers, in London | c/100 | 64.3 | 72.7 | 84.5 | 75.8 | 75.4 | 83.6 | 76.6 |
| Bacon - Danish, No. 1, in London (P. E.) | c/100 | 61.9 | 78.8 | 93.1 | 93.4 | 92.5 | 97.2 | 100.9 |
| Butter - Danish, in Copenhagen | 100 | 57.8 | 55.5 | 52.3 | 62.3 | 68.2 | 64.9 | 69.5 |
| Butter - Danish creamery, un- salted, in London, (P.E.).. | c/100 | 79.1 | 69.3 | 66.2 | 75.2 | 80.5 | 77.5 | 81.8 |
| Eggs - Danish for export, in Denmark | b/100 | 63.4 | 66.1 | 64.7 | 66.7 | 85.2 | 56.8 | 78.4 |
| Cotton - Middling, in New Orleans | 100 | 34.9 | 46.9 | 67.7 | 65.3 | 63.4 | 64.1 | 68.3 |
| Cotton - Sakellaridis Fully Good Fair, in Alexandria .. | 100 | 39.6 | 40.5 | 46.3 | 46.3 | 46.9 | 48.3 | 55.4 |
| Cotton - Machine Ginned Broach Fully Good, in Bombay | 100 | 57.3 | 55.8 | 60.8 | 66.2 | 63.3 | 58.6 | 64.3 |
| Hemp - Bologna, in Milan | b/100 | 48.4 | 53.2 | 53.2 | 74.1 | 84.9 | 97.8 | 98.4 |
| Flax fiber - "Livonie L.", in Riga | b/100 | 33.9 | 35.8 | 38.6 | 47.6 | 45.6 | 38.7 | 43.3 |
| Raw silk - Classica, 13/15, in Milan | d/100 | 26.4 | 20.8 | 14.8 | 21.3 | 28.6 | 27.4 | n.c. |
| Raw silk - "D" grade, in Yokohama | b/100 | 51.8 | 56.3 | 39.5 | 53.4 | 61.8 | 55.5 | 59.2 |
| Rubber - Java Standard, sheet, in Batavia | c/100 | 26.2 | 34.4 | 63.1 | 60.2 | 61.2 | 73.8 | 95.1 |

a/ 1929. b/ 1927-28. c/ 1930. d/ 1928.

Table 2. Index numbers of prices of agricultural products and of commodities and services bought by the farmers

| Country and item | 1932 | 1933 | 1934 | 1935 | 1936 |
|--|---------|---------|---------|---------|-------|
| Canada (Dominion Bureau of Statistics 1926 = 100): | | | | | |
| Total Canadian farm products | 48.3 | 51.0 | 59.0 | 63.4 | 70.1 |
| Fertilizers | 71.8 | 74.3 | 75.9 | 75.8 | 74.4 |
| Consumers' goods | 78.8 | 76.2 | 77.0 | 75.7 | 75.5 |
| Wholesale products, general | 67.0 | 67.2 | 71.6 | 72.1 | 74.6 |
| England and Wales (Ministry of Agriculture, 1911-1913 = 100): | | | | | |
| Agricultural products | 112.0 | 107.0 | 119.0 | 123.0 | 125.0 |
| Feeding stuffs | 95.0 | 85.0 | 91.0 | 87.0 | 93.0 |
| Fertilizers | 90.0 | 90.0 | 90.0 | 88.0 | 89.0 |
| General wholesale prices | 94.0 | 93.7 | 96.4 | 99.5 | 104.4 |
| Germany (Statistisches Reichsamt, 1913 = 100): | | | | | |
| Total agricultural products | 91.3 | 86.8 | 95.9 | 102.2 | 104.9 |
| Chemical fertilizers | 70.4 | 70.2 | 68.7 | 66.8 | 66.8 |
| Machinery and implements | 116.1 | 111.6 | 111.1 | 111.1 | 111.6 |
| Manufactured goods | 117.5 | 117.7 | 117.3 | 124.0 | 127.3 |
| Poland (Central Statistics Bureau, 1928 = 100): | | | | | |
| Agricultural products | - | - | 46.8 | 43.8 | 45.4 |
| Commodities bought | - | - | 70.3 | 66.3 | 64.6 |
| General wholesale prices | - | - | 55.7 | 53.0 | 54.0 |
| United States (Bureau of Agricultural Economics, 1909-10 to 1913-14 = 100): | | | | | |
| Total agricultural products | 57.0 | 63.0 | 90.0 | 108.0 | 114.0 |
| Commodities bought | 107.0 | 109.0 | 123.0 | 125.0 | 124.0 |
| Agricultural wages | 86.0 | 80.0 | 88.0 | 95.0 | 106.0 |
| Yugoslavia (State Bank, 1926 = 100): | | | | | |
| Vegetable products | 67.5 | 57.2 | 57.4 | 68.2 | 69.7 |
| Animal products | 56.6 | 57.1 | 55.4 | 56.6 | 60.0 |
| Industrial products | 66.2 | 70.8 | 67.4 | 66.7 | 69.7 |
| General wholesale prices | 65.2 | 64.4 | 63.2 | 65.9 | 68.4 |
| Norway (April 1, 1909 - March 31, 1914 = 100): | 1932-33 | 1933-34 | 1934-35 | 1935-36 | |
| Vegetable products | 112 | 113 | 130 | 154 | |
| Animal products | 114 | 112 | 119 | 134 | |
| Total agricultural products | 113 | 112 | 121 | 138 | |
| Agricultural requisites | 127 | 119 | 122 | 133 | |
| Household goods | 154 | 152 | 154 | 156 | |
| Total agricultural requisites and household goods | 138 | 133 | 136 | 143 | |
| Agricultural wages | 152 | 150 | 146 | 152 | |

Table 3. Index numbers of wholesale prices of agricultural products
(First quarter of 1929 = 100)

| Country | 1934 | | 1935 | | 1936 | |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
| | Jan.- June | July- Dec. | Jan.- June | July- Dec. | Jan.- June | July- Dec. |
| Argentina | 64.1 | 70.7 | 66.3 | 71.7 | 78.2 | 87.1 |
| Canada | 58.5 | 62.8 | 74.0 | 65.9 | 67.7 | 77.1 |
| England and Wales | 80.7 | 83.9 | 83.9 | 84.4 | 85.4 | 88.5 |
| Finland | 67.8 | 69.1 | 70.1 | 72.3 | 75.1 | 74.5 |
| Germany | 69.0 | 74.9 | 75.4 | 78.3 | 78.7 | 78.7 |
| Hungary | 46.1 | 52.0 | 55.7 | 62.2 | 61.0 | 54.7 |
| Italy | 52.8 | 56.7 | 60.9 | - | - | - |
| New Zealand a/ | 108.2 | 104.2 | 104.1 | 114.4 | 120.7 | - |
| Netherlands | 60.0 | 56.6 | 53.2 | 55.2 | 53.6 | 57.7 |
| Poland b/ | 51.5 | 49.9 | 45.5 | 47.9 | 45.4 | 49.5 |
| United States (Bureau of Agricultural Economics) | 56.4 | 66.5 | 74.1 | 73.3 | 73.3 | 82.5 |
| United States (Bureau of Labor Statistics) | 57.1 | 65.1 | 74.5 | 73.8 | 73.5 | 78.9 |
| Yugoslavia: | | | | | | |
| Vegetable products | 41.1 | 43.3 | 44.7 | 55.5 | 60.3 | 46.5 |
| Animal products | 52.5 | 51.2 | 53.4 | 52.3 | 51.9 | 59.9 |

a/ Base: first quarter of 1931.

b/ First month of each quarter referred to January 1929.

Though the information quoted above refers only to a few countries, if considered in connection with other data, mostly bearing witness to a general improvement in the conditions of agriculture, it may be looked upon as illustrative of a tendency which, except in the countries still heavily depressed by a deflationist monetary policy, was very marked. To some extent, as we have had occasion to notice in considering the movement of prices generally in the course of the years 1935 and 1936, even in some countries of the Gold Block, there has been a development in the same direction. Indeed, the effects of an active policy of assistance to agriculture tended to mitigate or even to destroy the influence of deflationary monetary policy upon the movement of prices of agricultural products, and these prices showed a tendency to advance. 2/

2/ Ed. note - In the original report, a section entitled "Returns of Farming" follows, in which there are summarized available data on aggregate agricultural income and net returns or purchasing capacity of farmers in Germany, the United States, Canada, Czechoslovakia, Sweden, Finland, and Estonia. "Heterogeneous and fragmentary as they are, these data tend, on the whole, to support the evidence given by the examination of price movements."

The Factors of the Recovery in World Agriculture

* * * * *

We have had occasion to point out that the recovery, like the depression, is a phenomenon exceedingly complex in its causation. To attempt anything like a complete analysis of the factors which brought it about would be an impossible proposition; but without trying to disengage at least the principal forces which were responsible for the revival, and assessing their respective contributions to the improvement, one would not be able either to judge of the real nature of the present situation and of the prospects of its future development, or to trace the main lines of the policy to adopt with a view to assisting the recovery and preventing a fresh regression.

Three main factors may be said to have had a particularly important influence upon the agricultural situation during the period under review. These factors are: natural conditions; government intervention, and industrial expansion partly due to rearmament and partly to the industrial development of new countries. A simple glance at this list will show how different these factors really are in every respect. The task of the investigator trying to assess the extent and the character of their respective contributions to the improvement is a very arduous one. Indeed, the present recovery, on closer examination, appears to be the resultant of a combination of several forces, some capricious and ephemeral, some depending upon more or less costly expedients of economic policy or upon emergency measures, and some deriving from natural and deep-rooted economic developments. In this medley of different forces we shall try to disengage the main trend of the resultant.

Natural conditions

We shall start with the effects of natural conditions, which, in the course of the period under review; have exercised a very strong influence upon the conditions of supply and demand and upon the movement of prices of agricultural products.

It will be remembered that the period of the agricultural depression was marked by a succession of good crops. The world output of the principal agricultural products was, accordingly, continuously in excess of the effective demand, and the presence of large unsold stocks of agricultural staples tended to exercise a depressing influence upon the markets. The succession of good seasons continued generally until 1933-34, when frost and drought in North America reduced the wheat crop there; but this reduction was made up in the world's total by increased production in other countries. The real break came in 1934-35, when the United States and extensive other regions in the Old and New Worlds were severely affected by droughts and generally unfavorable weather conditions. The cereal crops which

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suffered most-were the two-most important in international trade, namely wheat and maize, but all the other crops also were reduced. The heaviest fall in the production of wheat, maize, and cotton took place in the United States, where the drought, coming on top of the reduction of acreage promoted by the A.A.A., had particularly striking effects. Current supplies having diminished heavily, stocks had to be drawn upon, and they were accordingly reduced considerably. During the year 1934-35, the worst sufferers from adverse weather conditions were the great agricultural exporting countries.

Though somewhat less marked, the situation was similar in 1935-36, during which year the wheat crop was affected by rust in the United States and in Canada, while droughts extended over the Argentine, Australia, and the principal exporting countries of Europe and North Africa.

The droughts in the United States and in some other countries, besides affecting the cereal crops, have also had an effect on stock-farming insofar as, in many regions, they brought about a forced liquidation of cattle, sheep, and pigs and eventually resulted in a scarcity of animal products, followed by a rise in their prices.

The crops of 1936-37, for which provisional data are now available, were also, on the whole, below the average of the preceding few years, mostly owing to the prevalence of adverse weather conditions. The crops in European importing countries were particularly affected.

To sum up the situation in the course of these last three years, table 4 is given. This table shows a diminution in the production of the principal crops which cannot, certainly, be attributed to the influence of climatic conditions alone, since vigorous efforts were made in many countries to restrict cultivation. 3/ It cannot, however, be

3/ Ed. note - The acreage figures, which in this case constitute a much better evidence than production statistics, do not show that the "vigorous efforts * * * made in many countries to restrict cultivation" produced significant results. In the case of wheat, to take the most common example, the world acreage, it is true, declined during the 2 harvest years 1933-34 and 1934-35, but weather conditions and low prices were important factors in reducing acreage. The world acreage increased again in 1935-36 and was at practically the same level in 1936-37. The current 1937-38 season witnessed a further expansion. The rye acreage was stationary from 1931-32 to 1934-35 and was larger during the past 2 years. Even in the United States adverse weather conditions played a more important part in curtailing agricultural production than the restriction policy of the Agricultural Adjustment Administration. It must also be borne in mind that, while some countries, confronted by unmanageable surpluses, pursued for a time restrictive policies, other countries, such as, for instance, Germany, Italy, the Soviet Union, and the United Kingdom, adopted and consistently and energetically prosecuted policies favoring expansion of agricultural production.

denied that the actual diminution in the current supplies and the consequent rise in the prices of the products were greatly assisted by the succession of three years of relatively short crops. The restrictive policy of the governments was effectively supported by Nature.

Table 4. World production of the principal crops, 1934-35 to 1936-37, in millions of metric tons ^{a/}

| Commodity | Average 1930-1933 | 1934-35 | 1935-36 | 1936-37 |
|-------------|----------------------|---------|---------|---------|
| Wheat..... | 101.2 | 95.3 | 97.0 | 96.0 |
| Rye..... | 24.4 | 23.8 | 24.6 | 22.9 |
| Barley..... | 32.3 | 31.2 | 34.5 | 31.7 |
| Oats..... | 49.6 | 39.3 | 49.2 | 41.7 |
| Maize..... | 109.3 | 90.1 | 106.0 | 91.7 |
| Rice..... | 90.0 | 85.8 | 85.1 | 93.2 |

^{a/} Exclusive of the U.S.S.R.

The visible stocks of the five principal cereals in the United States and in Canada have diminished very considerably, as will be seen from table 5.

Table 5. Visible stocks of the principal cereals on July 1 in the United States and Canada, in thousands of metric tons

| | 1932 | 1933 | 1934 | 1935 | 1936 |
|-------------|-------|-------|-------|-------|-------|
| Wheat..... | 8,790 | 9,010 | 7,410 | 6,030 | 4,330 |
| Rye..... | 430 | 410 | 430 | 390 | 260 |
| Barley..... | 160 | 440 | 430 | 260 | 360 |
| Oats..... | 240 | 580 | 500 | 220 | 560 |
| Maize..... | 460 | 1,340 | 1,060 | 300 | 200 |

The world stocks of ginned cotton of various origins are shown in table 6.

Table 6. World stocks of ginned cotton on August 1, in thousands of metric tons

| Growth | 1932 | 1933 | 1934 | 1935 | 1936 |
|---------------|-------|-------|-------|-------|-------|
| American..... | 2,950 | 2,610 | 2,350 | 2,000 | 1,500 |
| Indian..... | 420 | 500 | 670 | 470 | 630 |
| Egyptian..... | 310 | 230 | 230 | 180 | 170 |
| Sundry..... | 200 | 220 | 390 | 380 | 570 |
| Total..... | 3,880 | 3,560 | 3,640 | 3,030 | 2,870 |

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In concluding here our remarks upon the part played by adverse weather conditions in producing the recovery in world agriculture, we should, however, point to certain qualifications to which an improvement due to this factor is necessarily subject. Indeed, in discussing the origins of the agricultural depression, so much stress has generally been laid upon the fall in agricultural prices, that the sense of perspective in the appreciation of the role of this factor has very largely been lost. The fall in prices, which is only an effect and a symptom of deeper troubles in the balance of the economic system, has very generally been mistaken for the real root of the evil, with the result that the view began to gain ground that anything which would raise agricultural prices would in itself improve the situation. Hence the conclusion that a diminution in the supply of agricultural products, due either to natural causes or to deliberate intervention, would in itself benefit agriculture, since it would raise agricultural prices.

Considered from the point of view of prices, this reasoning represents a very legitimate application of the law of supply and demand, but on closer examination, the contribution that such a reduction in supplies may bring to the solution of the agricultural problem does not appear to be so obvious. As a matter of fact, taking world agriculture as a whole, it is difficult to see how a general improvement in its position may arise out of reduced production, under conditions in which, according to the consensus of expert opinion, absolute overproduction of the basic foodstuffs does not exist, and many millions of human beings all over the world would benefit by increasing their consumption.

Viewed from the point of view of world economy, the situation produced by a rise in prices due to short crops, at the best represents a case of robbing Peter to pay Paul, with the agricultural community no better in the end, but with the consumer penalised by higher prices. In fact, in those parts in which the crops are bad, the farmer loses in quantity whatever he gains in price, more or less, with the result that he is no better off and his purchasing power does not increase. The incidence of his fixed charges - labor, debts, taxes, and rates - is not affected by a rise in the prices of his products, unless such rise brings about an increase in the returns of his farm. If the bad season affects a large proportion of the total world crop, as it actually did in the course of the last years, and the general level of agricultural prices rises everywhere, the benefit accrues to the producers in the localities which have not suffered, and the gains of the farmers in these parts are quite real. Yet, on the balance, they just gain, more or less, what others have lost, so that there can be no general increase in the aggregate income or the total purchasing capacity of the world's agricultural population. Compared with that of manufactured goods and other industrial products, the value of agricultural products may rise, but the aggregate quantity of the former which can be

obtained in exchange for the aggregate quantity of the latter, in other words the aggregate purchasing capacity of the world's farmers, will not necessarily increase.

The situation, though it may be modified to some extent in detail in particular cases, owing to special conditions or to a coincidence of favorable circumstances in a given area, is essentially such as we have outlined it here in very general terms. Though in a given country, farmers may benefit from a rise in prices due to short crops in other countries, deficient supplies due to such causes can hardly be looked upon as a factor in improving the world agricultural situation generally. If it does, that means that the rise in prices is more pronounced than would be justified by the deficiency, and that a redistribution of national income is taking place in favor of the agricultural producers. This, indeed, is what is actually taking place practically everywhere, since the governments have inaugurated far-reaching measures of intervention on behalf of the farmers:

Government intervention

For several years now the governments, even in countries which, hitherto, had been the principal bulwarks of economic liberalism, have been sparing no effort in attempts to help agriculture through the depression. In our preceding surveys we have described and analyzed the developments which took place in the application to farming of far-reaching measures of government planning and control. We have sought to trace the origins and the main lines of evolution of these measures, as well as to inquire into the essential conditions of their success and into their actual and potential effects upon the economic system.

Starting from the growing application of old-fashioned devices, such as protective duties or export bounties in various forms, designed to maintain remunerative prices for the home farmer, through a vast network of quantitative restrictions and other measures, the whole process of production and distribution and the formation of prices on the agricultural markets, in most countries, has been made subject to an intricate system of regulation and control.

Though, at the beginning, government intervention could not be said to have been generally directed towards a definite goal, and measures were taken in a more or less haphazard way, in response to the needs of a given situation, in most countries in which the agricultural population represents numerically and politically an important element in the community, there has been growing a sense of the necessity of insuring to the agricultural producer a fairer share in the national dividend. It was felt that, as compared with the other producers, whose industries offered greater opportunities of organization

and concerted action, the farmer was heavily handicapped and penalized, having to bear the main brunt of the depression. Accordingly, the governments, in intervening on behalf of the agricultural producers by various means, from the encouragement of voluntary or even compulsory organization, down to the most minute regulation and control of the details of his business, and sometimes by direct or indirect subsidies at the expense of the community, sought to insure to the farmer a larger share in the national income. In other words, government planning and intervention in agriculture, have for their object a modification in the distribution of national income in favor of the agricultural population.

In trying to assess the importance and the prospects of the present recovery in world agriculture, special attention must accordingly be paid to government intervention and to its effects upon the situation.

A bird's-eye view of the agricultural policies pursued, of late, by the governments of all countries, would reveal the importance of this factor in determining the fortunes of the agricultural industry. Indeed, it may be said that, in agriculture, deliberate planning and control have probably made deeper inroads into the organization of production and marketing than in any other branch of economic activity. In certain countries, organized on more or less totalitarian lines, agriculture has been brought into the general framework of social and economic organization, with a view to coordinating its activities with those of the other branches of production. This is the case, in the first instance, in the U.S.S.R., where farming has been reorganized in both its social and its economic aspects, with a view to fitting it into the general scheme of the socialist system. In Italy, through the eight agricultural corporations, agricultural production and trade have been submitted to the far-reaching control of the Corporative State. In Germany, a similar, and perhaps even more thoroughly centralized, control over agriculture in all its aspects is exercised through the Reichsnährstand and its various special organizations. By the Federal Law of July 10, 1935, Austria has also constituted a special Corporation of Agriculture and Forestry.

In all these countries, to a varying extent and on different lines, farming has been brought into a more or less coordinated system of planned economy. Apart from Russia, which, in every respect, occupies a peculiar position, insofar as the whole organization of its economic system is based on principles fundamentally different from those prevailing elsewhere, all these countries pursue an economic and social policy of which the protection and encouragement of agriculture and of the agricultural population is one of the principal elements. Here, the combination of measures of protection, such as high tariffs, various restrictions on imports, fixed minimum

prices; etc., which ultimately result in changing the distribution of national income in favor of the agricultural classes, form part of a deliberate policy of supporting and strengthening, if need be at the expense of the rest of the community, those groups of the population on which the country's political and economic future mainly depends.

In other countries, though their political organization remains essentially unchanged on a democratic basis, government intervention, even if it is not welded together into a comprehensive system of planned economy, is no less evident, and its influence upon the distribution of national income is hardly less marked.

In the United States, which, after the totalitarian states and the U.S.S.R., is the country where government intervention in economic activity under the Roosevelt Administration has been the most thorough and comprehensive of all, agricultural production and trade are placed under the strictest control. Here, the redistribution of the national income in favor of the agricultural classes has been the acknowledged object of the Agricultural Adjustment Act, which set out "to establish and maintain such balance between the production and consumption of agricultural commodities, and such marketing conditions therefor as will reestablish prices to farmers at a level that will give agricultural commodities a purchasing power with respect to articles that farmers buy, equivalent to the purchasing power of agricultural commodities in the base period." 4/

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Owing to government intervention, the farmers actually find themselves in this position:

In all countries dependent to a larger or smaller extent upon agricultural products, and more particularly foodstuffs, imported from abroad, the home producer enjoys a degree of protection, through high import duties and quantitative restrictions - quotas, license systems, etc. - which far exceeds in efficiency anything that has existed before even in the most protectionist countries. This control of imports permits autonomous prices to be maintained on the home markets, at a level which insures the farmers more or less favorable conditions in the disposal of their products. This naturally involves to a certain extent a redistribution of national income in favor of the agricultural classes. The incidence of this redistribution varies somewhat, according

4/ Ed. note - The section of the report discussing methods of government intervention, designed to improve the economic position of farmers, in the United States, Great Britain, France, the Netherlands, and other countries has been omitted.

to the degree of the spread between the producer's and the consumer's prices, to the elasticity of the margin, and to the organization of the transfer of the product from producer to consumer, which may or may not involve excessive increases, due to monopolistic tendencies, at some points. Accordingly, under some conditions the increase in price, due to protection, falls wholly or partly on the consumers; in others, when the demand for the product is relatively elastic and readily reacts to price changes, while in the intermediate stages high profits are made by the wholesalers, processors, or dealers, the price increase may be borne, wholly or in part, by these intermediaries, without being fully passed to the consumers.

In the exporting countries, the farmer is helped by subsidies in various forms, -export bounties, the fixing of minimum prices on the home market, various measures to develop foreign and internal demand, etc., as well as, in some cases, by international producers' agreements having for their purpose the control of aggregate supplies of a given product - wheat, tea, rubber, sugar, etc. - on the world market. Here, again, in some form or other, by direct grants out of public funds, by the raising of home market prices, or by diminishing the supplies on the world market, the share of the farmers in the aggregate purchasing capacity of the national or international community is increased.

In both the exporting and the importing countries, subsidies, in various forms, are given to farmers, as we have seen above, with a view to securing an adjustment of supply and demand and to raising prices, or to encouraging production, as the case may be.

Another aspect of government intervention, which has played an important part in producing the present recovery, consists of the measures taken with a view to reducing the costs of production in agriculture. Such measures were taken in many countries, but they play a particularly important part in the agricultural policy of exporting agricultural countries. These, not being in a position to exercise an effective control over the prices of their products, which depend upon the conditions of foreign markets, have to fall back upon the reduction of costs in the first instance.

The measures aiming at a reduction in the costs of agricultural production may vary from a reduction or remission of taxes or a diminution or conversion of debts, to concessions on railway freights and other transport charges on agricultural products, to the organization of supply of seeds, implements, and other means of production, and in some cases even of labor, at reduced costs.

Perhaps the most important among these measures of assistance to farmers are those taken to relieve the burden of debts. These

measures were particularly pressing since, after the period of inflation and artificial boom in the prices of land, which resulted from the war, agriculture in most cases found itself overburdened with mortgages, and when the currencies were stabilized and the depression, already long felt in agriculture, became acute, the burden of indebtedness became overwhelming. We cannot dwell here in detail upon this aspect of the policy of intervention in favor of the farmer, but we have to point to its importance in relieving the farmers and helping the recovery in agriculture. 5/

Thus, in the course of these last few years, government intervention and planning in agriculture have been largely instrumental in producing a recovery in the conditions of agriculture and in the economic position of the agricultural classes.

It can hardly be denied that the agricultural and commercial policy pursued by the governments since the beginning of the depression has had for its effect a certain change in the distribution of the purchasing capacity of the community generally in favor of the agricultural population.

Industrial revival

We have seen that government intervention in favor of the agricultural industry, which had assumed an unprecedented importance in the course of the last few years, did much to improve the economic position of the farmers. By means of vigorous measures, sometimes involving a far-reaching reorganization of production and marketing, and making deep inroads into commercial policy and international economic relations, the governments largely succeeded in increasing the share of the agricultural classes in the aggregate income of the community. This policy of intervention and planning, justified as it was by the vital interests at stake, and often imperatively imposed by economic, social, and political considerations of overwhelming importance for the countries concerned, is, however, necessarily costly. Indeed, one could not expect to go on indefinitely subsidizing a certain branch of production at the expense of the general community, unless the resources of this latter could be continually developed at a rate which would either permit it to increase its own effective demand for agricultural products to an extent which would eventually make agriculture self-supporting, or, alternatively, would enable it to bear the continuous drain upon its earnings, involved in the subsidizing of agricultural production, without damage

5/ The reader is referred to a recent study by G. Costanzo on "Agricultural Indebtedness", which deals with the situation in this respect in 26 countries, and was published in the Monthly Bulletin of Agricultural Economics and Sociology, Nos. 1, 2, 3, and 4 for 1937.

to its efficiency and grave menace to its future. The community, indeed, could not advance in prosperity and civilization, if it were to continue indefinitely to pursue the policy of restricting agricultural production with a view to adapting it to dwindling demand. Such an emergency measure, rendered necessary by the depression, could only be resorted to as a temporary expedient, and the leveling-down of the standards of productive efficiency could not be continued without putting the whole civilized world in jeopardy and reducing ad absurdum the great achievements of modern science and technique. Thus, unless the world were to acknowledge its utter intellectual and moral bankruptcy, and to admit that its planned economy is but a system of slow economic suicide, it must eventually, and the sooner the better, change the direction of its planning efforts, and instead of leveling-down, begin to plan coordinated expansion, insuring the services of science and technique to the satisfaction of human needs.

The equilibrium which it was sought to achieve by planning and co-ordination of economic activities had to be sought in reducing the output and efficiency of the industries with redundant production so long as, under the influence of the depression, the aggregate purchasing capacity of the community was in continuous contraction. A change in economic conditions, which would revive economic activities, which would bring the unemployed back into profitable occupations and would put fresh purchasing power at the disposal of the mass of consumers, was necessary to permit the consolidation and extension of the positions gained by agriculture owing to government intervention and planning. The present economic revival, by increasing industrial production, by absorbing labor, and by increasing profits and earnings and, with them, the effective demand for all classes of agricultural products, provides this opportunity.

The aggregate demand for agricultural foodstuffs and raw materials of agricultural origin grows naturally with the increase in industrial activity; the evolution which brought about the agricultural depression is now largely reversed. What is true of the aggregate demand may not necessarily apply to particular products and particular countries, since in the economic organization of all countries, as well as in their international relation, much has changed more or less permanently. Thus, most countries have done the utmost to increase their economic self-sufficiency or at least so to organize their trade as, under normal conditions, to obtain their supplies without endangering their balance of payments or creating exchange difficulties, and, in case of international complications, to avoid their being cut off. Under such conditions, industrial revival does not and cannot necessarily involve a restoration of former trade currents, interrupted by the depression. The revival, as we have had occasion to point out before, is very largely, if not wholly, a national affair of the particular countries or of blocks of countries bound together by ties of political and economic cooperation. Outside these more or less closed groups, into

the sphere of international economic relations, it projects itself only partly and out of proportion to the intensity of its national manifestations. Yet, though so largely confined within national frontiers or regional or imperial groupings, within each of these limited areas it exercises its beneficial effects upon agriculture, and, to a certain extent, it projects itself beyond these limits into the international sphere. 6/

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The Nature of the Recovery and its Problems

The trend of the recovery

The present recovery in world agriculture and in the general economic situation may be approached from two entirely different points of view, according to the outlook of the observer.

Indeed, for those who consider the present stage of the world's economic situation as a passing deviation from the straight path of orthodox competitive economy, the recovery means the possibility of a return to the canons of economic individualism and free trade, which will lead erring humanity back to prosperity. For those who hold these opinions, the revival of economic activities must bring with it the gradual abolition of those measures of regulation and control, which have made the present economic organization so different from that which economic orthodoxy took for granted for over a century.

6/ Ed. note - A section on "Industrialization of New Countries" has been omitted. In this section, attention is called to the fact that, with the exception of Russia and Japan, the industrial development of agricultural countries generally is proceeding very slowly. "The success of agricultural countries in achieving economic autarchy or self-sufficiency is considerably less marked than that of industrial countries in asserting their independence in the supply of agricultural products..." Nevertheless, "the steady development of certain branches of primary and manufacturing industries in the 'new' countries, which is undoubtedly taking place, tends to increase to some extent the aggregate demand for agricultural products, on the one hand, and somewhat to relieve the pressure of agricultural exports on the world market on the other hand; and to this extent it contributes undoubtedly to the recovery in world agriculture." As for Russia and Japan, it is pointed out that their industrialization proceeds along very different lines and with fundamentally different, though essentially beneficial, effects upon world economy. While the process of industrialization in Russia has tended to reduce agricultural exports and has thereby contributed to the world agricultural recovery, in Japan it exercises a similar beneficial effect from the demand side.

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The other opinion starts from a different proposition. Looking back into the long history of the development of our economic organization, it finds that those canons of economics which, to some, are a sort of natural law, are limited in their application to a relatively very short period, during which, moreover, they have actually undergone considerable modifications. Though the axioms of orthodox competitive economics have not outlived their usefulness, in the social and economic organization of the modern world they conserve their value just in the same sense as do the laws of dynamics in the void in the application of physical science to concrete problems of engineering. Just as, before the industrial revolution, conditions have existed to which the principles of competitive economics did not apply, since the very mental outlook of the people would repudiate them as utterly alien to its ideas of right and wrong, so one should be ready to admit the possibility of a new phase of social and economic evolution in which the canons of orthodox competitive economics, though useful as a help to clear thinking in the solution of complex economic problems would cease to find practical application.

Indeed, it may be quite right, as we know it actually is, that the restriction of the freedom of international trade tends to reduce the productivity of world economy and the standards of life of the people. Should the standard of life be the only criterion which would determine the policy of the nations, that axiom of economics would be an imperative of practical policy. Yet, one cannot deny that a people can attach greater value to certain conditions, not necessarily of economic nature, such as its security as an independent national body or the survival of certain social groups or classes, etc., than to the maintenance or attainment of a certain standard of life. This standard of life, moreover, would be very precariously assured; if the immediate benefits deriving from free trade and unfettered competitive individualism were permitted to outweigh basic political and social considerations.

Considering what has been said above about the origin of the recovery, one cannot fail to see that it depends on a very complicated combination of factors which cannot be withdrawn without bringing down the whole structure of the revival. Indeed, the recovery, though it eases the situation and improves the prospects for the future, does not itself provide a solution of the problem of restoring equilibrium and prosperity to the economic system by just withdrawing the supports on which it now rests. On the contrary, far from automatically solving the present problem, it sets problems of its own, which have to be solved to prevent an eventual relapse into a state of depression and chaos, probably worse than that out of which the world would appear now to be emerging.

We have seen how important a part in producing the recovery in agriculture has been played by government intervention or, in other

words, precisely by that complex of measures of regulation and control which make the present-day economic organization so essentially different from the competitive system. It would be difficult to imagine a sudden change which would involve the abandonment of deliberate planning and control, and that not only because of the utter chaos it would produce in the economic system, and of the fatal consequences it would have for large groups of population, whose preservation and prosperity is important for the economic, social, and political stability of their respective countries, but also because of the fact that such a change would be contrary to the general trend of present-day development. This trend, which largely accounts even for the revival itself, is certainly rather towards a consolidation of the tendency to economic autarchy or self-sufficiency, than towards the encouragement of world-wide economic interdependence between different nations.

Rearmament and world-wide economic cooperation are not easy to reconcile, since in modern war economic self-sufficiency is so important a condition of a nation's military efficiency and power of resistance that no country can consider its armaments sufficient unless they are backed by economic resources which enable it to withstand a condition of protracted virtual siege. Accordingly, so long as the world continues to live in conditions of apprehension of imminent conflict, a revival of the world market will be out of the question, and international economic relations will be bound to assume, from the economic point of view, a decidedly distorted aspect. Indeed, instead of developing along normal channels, into which goods and capital are flowing under the influence of the difference in the relations of prices and costs, as they do under the competitive system, trade currents will depend upon political considerations. Thus, most countries will seek so to organize their foreign trade as to make themselves dependent for the necessities they have to import upon countries bound to them politically and so situated as to diminish the risk of interruption in trade in case of political complications or possible war. Even if, under normal conditions, the supplies obtained in this way may be more costly, the noneconomic advantages of such a system of semipolitical trade may be sufficiently important to make it preferable, from the point of view of the countries concerned, to a system under which trade would be carried at lower costs or at higher profits.

Commercial policy and international trade

In the development of world trade, which has, so far, hardly responded to the marked revival of production and business activities generally, the effects of such a transformation in the nature and direction of international commercial relations appear very clearly. Indeed, paradoxical as this may seem at first sight, much of the increase that may be observed in the volume and value of international trade is due

to the growing tendency towards economic autarchy, sometimes on a national basis, but more often within regional or imperial blocks.

Thus, if, using the words in their accustomed sense, we speak of world trade as the aggregate of triangular trade operations on the world market, ruled by free competition and purely economic considerations of costs and returns, this trade has certainly suffered a most severe diminution. This diminution can roughly be measured by the drastic fall in the volume and value of world trade since 1929.

Compared with 1929, the index numbers of the value of world trade during the period 1933 to 1935 were as follows:

Table 7. Index numbers of the gold value of world trade
in 1933-1935
(1929 = 100)

| Trade | 1933 | 1934 | 1935 |
|--------------|------|------|------|
| Imports..... | 35.0 | 33.7 | 34.2 |
| Exports..... | 35.5 | 34.5 | 35.2 |

Monthly Bulletin of Statistics of the League of Nations.

During the year 1936, for which complete figures are not yet available, there has apparently been some slight increase in both the volume and the value of international trade, though in view of the incompleteness of data referring to the volume of trade and the obvious effects upon its value of the rise in commodity prices, these figures should be taken as an approximation.

In any case, it is clear that, while the fall during the depression was enormous, the loss suffered on the value of world trade reaching nearly two-thirds of the 1929 figures, the recovery is confined within extremely narrow limits.

The share of Europe, which has always been, and still is, by far the most important buyer and seller on the world market, has diminished steadily since 1929, and though, in 1936, there has been a certain recovery in European exports and imports, on the whole it was very slight. Thus, the average monthly value of European imports rose from 539.39 millions of gold dollars in 1935 to 587 millions of gold dollars in 1936, while European exports increased from 433.03 millions of gold dollars in 1935 to 457.69 millions of gold dollars in 1936 - an increase which, considering the rise in gold prices, did not much alter the situation.

The difference between the position in 1929 and now is mostly due to the fact that while, before the economic depression, one had to do with world trade in the proper sense of the word, governed wholly or

mainly by the stimulus of profit, now one has largely to do with a trade between countries striving after the ideal of economic self-sufficiency and admitting international economic cooperation only to the extent to which it is indispensable for the country concerned. In our preceding surveys we have had occasion to discuss the development of modern commercial policy and of international trade under conditions of isolated national planning. The tendency of commercial policy would appear to be away from the competitive system and to point towards international trade largely resting upon a contractual basis. Limited to the strictly necessary, to the extent that commercial treaties and trade agreements tend increasingly to assume the characteristics of international contracts for the sale and purchase of specified quantities of particular goods, world trade is drastically reduced in scope, and any increase that may take place in international commercial relations is confined within very narrow limits.

There is no doubt that, on the whole, this development involves an all-round lowering of the standards of life, especially in the case of those countries which used to be dependent upon foreign trade for their supply of necessities or for a large part of their aggregate national income. Since the beginning of the depression, these countries have sought to prevent the process of transformation of international commercial relations which tended to destroy the world market by substituting bilateral trade on a contractual basis for the complex system of triangular transactions governed by competition which existed before. For several years, till the development of quantitative restrictions and the expiration or cancellation of numerous trade treaties containing the most-favored-nation clause, a struggle has been going on between the different countries and interests which were involved in this question about the application of that clause. The efforts made by the partisans of free trade failed in stemming the tide of restrictionism, which was the necessary concomitant of a policy of planning and control. This policy spread all over the world, including those countries which, previously, had been the staunchest partisans of economic liberalism.

The utter failure of the Monetary and Economic Conference of 1933, which sought to reverse the direction of the evolution of commercial policy, was a clear sign of the time. Since then, the attempt made by the United States Government in 1934 to achieve a reduction of tariffs and restrictions through bilateral commercial agreements, though it produced a few such treaties based upon the M.F.N. Clause, could not be said to have succeeded to any marked extent. By offering unconditional most-favored-nation treatment to all those countries which agreed not to discriminate against its exports, the United States sought gradually to extend the area of low tariffs. Up to the close of 1936, 14 such agreements had been signed, of which 6 were agreements with other American

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countries, one with Haiti, one with Cuba, and 6 with Belgium, Sweden, the Netherlands and its colonies, Switzerland, France and its colonies, and Finland. These agreements generally involved a reduction of tariffs on certain categories of goods imported from the United States, and it would appear that both parties have profited to some extent by increasing their mutual trade. Yet, the field covered by these agreements was a relatively very narrow one, and their effects upon world trade generally were slight, the more so that, apart from these and a few other concessions in particular cases, the general trend of commercial policy continued to point to further restriction.

Whatever gain there has been in the volume and value of world trade during the period under review was certainly due not so much to the abandonment of restrictions and to a tendency towards greater freedom in international trade relations, as to the effects of short crops in certain countries of Europe and to the demand for raw materials and semimanufactured products due to the general revival in industrial activities and to the industrialization of new countries. So long as rearmament goes on, countries will import increased quantities of primary products for their immediate needs and for laying in stocks for contingencies, thus, to a certain extent, producing the paradoxical situation that a tendency towards economic autarchy or independence results in an increase in international trade. Insofar as the laying-in of stocks and the feverish production of armaments and equipment are concerned, this situation is not so paradoxical as it may appear. But, undoubtedly, it would be impossible to expect any tendency towards a return to the conditions of competitive international trade on the world market, involving the economic interdependence of all countries upon each other, until the present atmosphere of uncertainty and apprehension is finally dispelled.

Thus, from what has been said above, it would appear that the present economic revival is a phenomenon of a somewhat peculiar nature. It is very different from those cyclic changes in world economic conditions to which economists have been used. Indeed, practically worldwide as it may appear, it does not belong to the domain of world economy as an organic whole. It is a fairly typical instance of the developments that are characteristic of a system in which the organic unity of world economy based on competition has been largely replaced by a mechanical aggregate of more or less isolated national units, each having an economic existence of its own and pursuing its own particular policy, often directly at variance with what would be considered the most sacred canons of orthodox economics.

A country best suited by nature to the production of wheat, which immediate economic considerations of profit should urge it to export in exchange for motor cars or machinery produced elsewhere,

would deliberately sacrifice such advantages in insisting upon the diversion of its labor and capital, under obviously unfavorable conditions, to the creation of a mechanical industry of its own. Another, highly industrialized and in possession of rich supplies of metal and coal and of a great army of skilled industrial labor, would just as obstinately insist upon growing wheat at apparently excessive costs, and, by refusing wheat imports, would restrict its own possibilities of exporting its industrial products to foreign markets. Both countries would deliberately be sacrificing the immediate economic advantages they derive from an international division of labor and an exchange of products based upon relative costs, for the sake of achieving a possibly high degree of economic independence.

Such being the present trend of economic evolution, which comes clearly to light in the agricultural policy of the industrial countries, as well as in the industrial expansion of those countries which have hitherto been predominantly agricultural, we have to do with a situation which is largely new and unlike those which followed the preceding depressions. Then, the depressions resolved themselves, as a rule, in a further extension of the interdependence between the different countries, involved in the growth of competitive world economy. Now, when, instead of closer interlocking in a system of international dependence and cooperation, every country would appear to be seeking at all costs to secure its economic independence, the recovery cannot be achieved automatically, and the world is confronted with new and difficult problems.

The problems of economic expansion

We have seen that, during the years of depression, efforts had to be mainly directed to the raising of prices, and that this was largely achieved by a restriction of production with a view to adapting it to dwindling demand. Economic planning during the period of depression was, accordingly, concerned, in the first instance, with the deliberate limitation of productive activities and involved, therefore, the partial frustration of the achievements of modern technique. Such a policy of restriction, however, could only be considered as a temporary expedient, and if recourse to it had to be made at the moment, with a view to restoring economic balance, it was necessary, at the first opportunity, to avail one's self of any possibility of planning for expansion.

Considering that the object of planning is, in the first instance, the comprehensive coordination of economic activities with a view to securing a stable balance among the various parts and functions of the economic system, planned expansion in agriculture could not be envisaged until an expansion became possible in the other branches of

economic activity. When industrial revival has set in, and industrial activity is rapidly growing, one should thus think of the effects this development might have upon agricultural policies. We speak here quite deliberately not of agriculture, but of agricultural policies, since, as we have seen from the agricultural experience of the Great War and its effects, the rise in agricultural prices would be bound to have far-reaching effects upon agriculture, but these effects, unless carefully watched and controlled, could be anything but beneficial to farming in the long run. In other words, the revival of agriculture and its expansion, to be really beneficial and lasting, should be thoroughly planned and organized in the light of the painful experience of the past. Only under such conditions will it be possible to avoid, as a culmination of the present economic revival, a worse disaster than that from which we are just emerging.

We have seen that the present economic revival is a peculiar phenomenon, which has little or nothing to do with the course of the business cycle and is largely accounted for by artificial factors, such as far-reaching measures of government intervention and a world-wide campaign of rearmament. Now, it may be said that both government intervention, which is particularly important in agriculture and, especially, the rearmament policy, are definitely inflationary influences, with the consequences of which upon the economic system one has to reckon. In the case of a cyclic revival of economic activities, there is a general increase in production and trade. Any currency and credit expansion is absorbed by the increase in transactions in commodities and services on the market. The break, when it comes, is generally due to the excessive strain imposed upon the financial resources by the continuous increase in the turnover of business, and by the absorption of capital in long-term investments. So long as it lasts, however, the process of cyclic expansion enables all branches of production to develop their activities. Increasing quantities of products are thrown on the market, and the money issued into circulation generally comes out of the banks in answer to a genuine demand for additional media of exchange. The revival in this case comes from the market itself, and inflation, if it happens, is a consequence not of the expansion of genuine business, but of speculative dealings which develop in connection with the increase in business activity, but are not an essential element of the situation. In the process of normal cyclic business expansion, agriculture is generally bound to participate, though it may be that, as it has repeatedly happened in the past, in order to profit by the general improvement, the farmers may have to make far-reaching changes in the organization of their industry and in its output.

Should the present economic revival be a normal phenomenon in this sense, the planned expansion of agriculture, after years of

restriction, would have been a problem admitting of a relatively easy solution. The price relations between agriculture and the other industries would, as a rule, tend to improve, insofar as it would be from the industrial side that the stimulus towards increased agricultural production would come.

The conditions under which the present revival takes place, however, are very different. The rapidity with which it is now proceeding being due in the first instance to rearmament, the working of the mechanism of recovery is different from that characteristic of the ascending phase of the normal business cycle. As we have pointed out, inflationary influences are at work in the economic system, owing to the fact that industry does not work wholly or mainly for the market, but largely produces goods which, instead of being sold, are immediately and permanently withdrawn from circulation. Thus, the large amounts of additional money coming into circulation in the form of wages, etc., with the increase of industrial activity, do not find on it a corresponding addition of goods, and the increase in the media of exchange in circulation tends thus to outstrip the increase in the volume of transactions for which money is needed. The cumulative effect of this continuous pumping into circulation of money, to which there corresponds no equivalent increase in marketable goods and transactions, is to produce a definitely inflationary tendency. This inflationary tendency is bound to accompany any economic revival produced by vast programs of public works, by rearmament, or by any other policy which results in diverting a large part of the productive forces of the country to the construction or manufacture of objects which are not placed for sale on the market. The manifestations of this tendency do not essentially depend upon the way, more or less sound, of financing such policy, though certain financial expedients may aggravate the situation considerably. Borrowing for armaments, public works, etc., thus does not produce the inflation, but it aggravates it insofar as, on top of the original inflationary tendency, it tends to produce an inflation of credit, which, in the end, unavoidably results in a further inflation of currency and of prices.

There is no need to dwell here upon the working and the effects of the process of inflation, which have repeatedly been the subject of thorough investigation during and since the Great War. During the depression, "controlled inflation" has often been recommended as a remedy for the headlong decline in commodity prices and in business activity, and, in 1933, a serious attempt has been made in the United States at putting this proposal to the test of experience. On the other hand, one of the principal arguments adduced by the partisans of the gold standard in favor of the policy of the Gold Block, was precisely that the abandonment of the gold standard would open the way to inflation, and that no country which has had, since the war, an experience of this evil would be prepared to run the risk of its repetition.

Yet, in practice, both the councils of those who advised "controlled inflation", and the fears of those who were afraid to risk producing it by abandoning the gold standard, proved unfounded. Indeed, when, in the summer and autumn of 1933, the United States Government sought to raise commodity prices and to encourage business by an inflationary monetary policy, these attempts failed completely, and the extra money pumped into circulation through the banks came back to swell the idle deposits of the credit institutions, without having been absorbed in business. Both materially and psychologically, the conditions of the market were such that expansion was practically impossible, and the essential conditions of an inflationary process were utterly lacking. Equally wrong, under the circumstances, and exactly for the same reasons, were the fears of inflation which forced certain countries to stick to the gold standard at all costs. The dangers of inflation could only become real when the vicious circle of the depression was broken through in some way or other.

We have seen that, in the present case, several factors have combined in producing a turn in the tide, and that two of these factors, rearmament and government intervention, which latter combines subsidies with restriction of output, are essentially bound to have an inflationary influence upon the economic system. And since an inflationary expansion of economic activities is essentially artificial, it can favor a recovery in economic activities in its earlier stages, but it has to be carefully controlled, lest, in the long run, it brings a new and worse depression in its wake.

Controlling the revival, with a view to avoiding the possibility of the inflationary process running away and playing havoc with the economic system, is a very complex and difficult task, which hardly has even been envisaged, not to say attempted. In the past, when, after a period of depression, business began to revive again, the process was generally permitted to run its natural course, following the ups and downs of the business cycle. Now, with the normal course of the business cycle broken by a drastic change in the structure of the economic system, in which free competition has largely been replaced by planning and control, the situation is altogether different. The phenomenon of revival not being essentially the result of the independent working of economic forces under conditions of free competition and automatic adjustment, the recovery cannot be left to look after itself. Planning and control, which proved necessary in the depression, are even more necessary, perhaps, in the revival.

The problem of the coordination of the various branches of business activity, which has never found a comprehensive solution during the depression, has lost nothing of its importance with the revival. The use of financial resources, the coordination and

arrangement, in time and in space, of the various activities, so as to avoid, as far as possible the concentration of excessive strains upon a certain point, and to achieve an even distribution of investments and earnings over the different sections of the economic system and at different times, is a huge problem of economic planning and organization. Under present conditions, it is all the more difficult because the industrial revival, which is at the root of the recovery, is so much dependent upon rearmament. This means that a large part of the industrial activity is necessarily assigned to rigidly determined tasks and cannot be either shifted to other employments, or made to contract or to expand deliberately with a view to effecting adjustments in the balance of the economic system.

The general problem of planning and controlling the economic revival is exceedingly complex and forms a highly interesting subject for investigation. We cannot, however, attempt its examination in this survey, and after having pointed to its nature and its importance, we shall conclude by a brief outline of the purely agricultural aspect of this question.

Piloting agriculture through the period of recovery

The very idea of having to pilot an industry through a period of revival and expansion may seem preposterous from the point of view of economic orthodoxy, and yet it is no exaggeration to say that, at the present juncture, this is one of the most vital problems with which, all over the world, those responsible for the agricultural progress of their respective countries are confronted. The scope and the urgency of this problem may not always be clearly perceived, the more so that the rapid change in the fortunes of farming may have the effect of momentarily blinding the observer to the dangers inherent in the situation. Yet, these dangers are there, and attention has to be called to them before it is too late to take the measures required to avert complications and to prevent a relapse.

The world, at the beginning of 1937, is being rapidly swept forward on a wave of increasing industrial activity and of rising commodity prices. This process of recovery has already been in evidence for some time, and during the last few months, roughly since the autumn of 1936, its rate of progress has been somewhat accelerated. Up to the end of 1936, however, one could not detect in the movement of prices or in any of the other significant elements of the economic evolution, any definite signs of inflationary tendencies having come into operation. Of inflation, there have been no signs until quite recently, when, during the first quarter of 1937, certain symptoms of danger began to make their appearance in some countries.

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Indeed, if we look upon the movement of the index numbers of cost of living, published by the League of Nations in the Monthly Bulletin of Statistics, we can see that, on the whole, until the end of 1936, the rise in the cost of living in most countries, though evident, was relatively small, compared with the marked increase in wholesale prices - a phenomenon, which, however, is quite natural, taking into account the normal lag in the adjustment of retail prices to changes in the wholesale price level.

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Evidently, the inflationary tendencies, if any, are still rather in their initial stages. Yet, unless promptly diagnosed and met with the necessary measures of adjustment, this latent state of the disease makes it all the more dangerous. While it does not appear on the surface, except in the rapid rise of wholesale commodity prices, its injurious effects are less marked than the momentary benefits it brings to the producer of foodstuffs and other necessities. This, indeed, is the time when, the danger being recognized, measures should be taken to prevent the inflationary tendencies inherent in the present economic revival from meeting the agricultural industry unprepared, lightheartedly riding on the rising tide towards a fresh disaster.

The rate of progress of the present expansion is determined by a rapid revival of industrial production due, in the first instance, to world-wide rearmament. This expansion involves the reabsorption into employment of large numbers of workers who were for years out of work, and a corresponding increase in the aggregate purchasing capacity of large masses of people belonging to those strata of population in which any increase in earnings involves, in the first instance, an increase in the demand for foodstuffs, thus directly increasing demand on the agricultural markets.

Besides, industrial expansion, directly or indirectly, involves an increase in the demand for primary commodities, including those of agricultural origin, such as cotton, wool, rubber, timber, etc. Conditions are thus being created under which a planned agricultural expansion becomes possible. A restrictionist policy in agriculture not only ceases to be justified, but may even be dangerous insofar as it tends to aggravate inflationary tendencies and to depress the standards of life by producing an excessive rise in the prices of agricultural commodities.

The problem of piloting agriculture through the revival precisely consists, in the first instance, in devising ways and means for the leveling-up of agricultural production, along with the increase in

effective demand, in a way which would enable the farmer, in expanding output gradually, to obtain prices which, without giving excessive profits, would put his industry on a reasonably remunerative basis and would not threaten it with sudden collapse at the first check in the expansion of effective demand. This may appear a counsel of perfection, but once engaged in planning and controlling agriculture through the depression to an extent which has already made it vitally dependent upon measures of deliberate intervention, one should not shirk the responsibility for the fate of this basic industry at a juncture which may be decisive for its future development.

This would just mean applying to agriculture those measures of adjustment and adaptation, which are now widely urged for the control of the revival in other branches of production, with a view to avoiding a run-away expansion and a collapse when the artificial stimulus now given to economic activities by the rearmament policy ceases to operate.

In the industrial field it is being urged that the activity of certain industries should be slackened down while the armament trades are in full swing, and that programs should be prepared in advance for starting the wholly or partially suspended branches of production when the armament orders begin to give way. These proposals aim at controlling the investment of capital and the provision of credit, with a view to avoiding over investment during the period of expansion, and a shortage of funds when they will be required to finance the transition to quieter times and to encourage the maintenance and the diversion to new fields of productive activities when the rearmament boom comes to an end. 7/

Indeed, as these lines are being written, one reads reports in the press concerning measures about to be decided upon in the United States and elsewhere, with a view to checking the upward swing of commodity prices. The rapid expansion of business activity, with its effects upon the demand for primary products, the level of prices, and public finance, as well as upon credit and currency, is such, that it appears to be dangerous to leave it alone and to permit it to run its natural course, and that some measures of control and intervention become imperative.

In agriculture, *mutatis mutandis*, the same problem of control over the course of recovery has to be faced and solved. In fact, it may even be more urgent and more difficult of solution, because agriculture, of all industries, is the one which, at the present time, is

7/ See, for instance, the articles "How to Avoid a Slump", by Mr. J. M. Keynes in The Times (London), January 13, 14, and 15, 1937.

in the most artificial conditions, being dependent to so large an extent upon deliberate government planning and financial assistance. Yet the progress of recovery in agriculture must be carefully coordinated with that of all other branches of economic activity. So far, agriculture has only been reaping the benefits of increasing demand and of rising prices for its products, but as the process of expansion goes on, other factors, less favorable to the farmer, will be gradually coming into operation.

As the inflationary tendencies inherent in the present economic situation begin to come into operation, conditions will change gradually. While, so far, the costs of production in agriculture have been generally falling, the expansion, in its progress, will have a tendency to raise them continually. With the increase in employment and the rise in the cost of living, wages will have a tendency to rise not only in industry, but in agriculture as well, and a scarcity of agricultural labor may well develop, as has already happened in some parts of Germany and in England.

The growing diversion of metallurgical, engineering, and chemical industries to the carrying-out of rearmament programs, unless deliberate measures are taken, based upon the recognition of the fact that the maintenance of agriculture at a high level is no less important an element in a country's defence than are guns and fortifications, would be bound to produce a growing dearth of agricultural machinery, implements, and fertilizers. The cost of capital and credit facilities will necessarily increase, with the growing strain imposed upon the financial system and the credit machinery by the expansion. The general rise in the level of commodity prices will largely compensate, if it does not actually exceed, the advance in the prices of agricultural products, and the "price scissors" which, at long last, government intervention in favor of agriculture has been closing, would have a tendency to reopen again.

Should agriculture be left to expand unchecked and without a definite plan aimed at controlling both the development of its production and its costs, and under conditions of inflated prices and land values, as was the case during the war-time period of so-called farmers' "prosperity", the consequences of such a recovery would be disastrous.

It is precisely to the prevention of this disaster, while permitting the agricultural industry to take full advantage of the economic revival, that the policy of planning and control of agriculture during the recovery should be directed. Before it is too late, that is before the process has run away, the development of agricultural production should be closely watched and, as far as possible,

brought under control. This would involve the finding out of the directions in which production could be developed without eventually leading the farmers into an impasse, and the encouragement of development in this particular direction by bringing into operation those expedients of regulation and control of which all the governments have learned the use during these last few years, during which economic planning has been applied in agriculture on so large a scale. By a combination of measures of direct encouragement with the judicious use, in certain cases, of adjustments in import duties and quotas with a view to reducing or increasing, as circumstances may require, the admission of agricultural products from abroad, in order to meet a given situation, a considerable degree of effective control over the direction of agricultural expansion could thus be achieved. A close watch would be required upon the price movements of agricultural machinery, implements, fertilizers and other elements of the farmers' costs of production. Measures would have to be taken to prevent, as far as possible, a dearth of these means of production and to secure their being available to the farmers at reasonable prices.

Special attention will have to be paid to the provision of capital and credit facilities to the farmers, with a view not only to meeting the demand for credit facilities on their part, but also to preventing the repetition of a phenomenon which generally follows on periods of agricultural prosperity, namely the overcapitalization and overindebtedness of agriculture, based upon a largely artificial inflation of land values.

These are only some of the outstanding aspects of the problem of piloting agriculture through the period of economic expansion. We could not possibly venture here into a detailed examination of this question, which assumes very different aspects according to the special conditions of the country concerned. All we want to point out here is that, though, after years of depression, the world has again entered a phase of economic expansion, the conditions of this expansion are such that, in agriculture as well as in other branches of production, while it helps in solving certain problems, it creates a number of new problems equally important and sometimes equally difficult of solution.

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THE HOG INDUSTRY IN YUGOSLAVIA

. By Harry E. Reed*

Yugoslav exports of live hogs, pork, and lard have increased in the recent years of declining American exports to Central Europe. The increased Yugoslav exports have developed largely because that country has been able to accept industrial products in exchange from Austria, Czechoslovakia, and Germany, but there are indications that future business on that basis will be limited. Increased hog production in those three countries also is restricting imports, and Yugoslavia finds it difficult to compete in countries where special agreements are not in effect. Yugoslavia is one of the leading Danubian corn-producing countries, but commercial hog raising is not correspondingly important. Production is largely for meeting the needs of a rural population. A relatively few large operators provide the export products, and it is unlikely that the wider export market necessary for the expansion of their operations will develop.

Yugoslavia is primarily an agricultural country, and about four-fifths of the population of approximately 14 million people derive their living from agriculture and related vocations. In general, farming is peasant in type, and production is largely for the purpose of supplying the peasant and his family with the necessities of life. Farm holdings in the old kingdom of Serbia were always small, and the land reform that has taken place in the territory acquired after the war from Austria-Hungary has so divided and reduced the formerly large estates that very few extensive holdings exist in present-day Yugoslavia.

Despite the handicaps to standardized and commercial production which result from peasant farming and small holdings, Yugoslavia produces an exportable surplus of grains, livestock, poultry, and fruits.

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Ordinarily, corn, is the leading export item, but in 1936, in the order of their importance, the principal agricultural exports were wheat, hogs, meat, hemp, tobacco, eggs, fruit, lard, corn, prunes, hops, and cattle. Agricultural commodities ordinarily account for over 75 percent of the value of the country's exports, and in 1936 hogs and pork products accounted for about 15 percent of the value of total exports for that year. Increased takings in 1936 of hogs, pork, and lard by the deficit fat countries of Central Europe were responsible for the important Yugoslav exports of those commodities.^{1/}

In the peasant-type agriculture of Yugoslavia sheep, cattle, and hogs play important parts; but, in view of the lack of income data and other material, it would be difficult, if not impossible, to rate these classes of livestock in the order of their importance in the agricultural economy of the country. Sheep, which are of an unimproved type, are most numerous, annual numbers fluctuating around 8,500,000. They are kept primarily for their wool and pelts. Though meat production is given little, if any, consideration in their breeding and selection, mutton and lamb make up the greater part of the meat diet in mountainous regions.

Cattle, outnumbering hogs, are bred primarily for draft purposes and provide most of the power used on farms. Milk and meat production are secondary considerations. Hogs fit well into the peasant farming system and are the principal source of meat for the country as a whole. Hogs and pork products also are the most important livestock and meat exports. The importance of hogs in the agricultural economy, however, varies considerably in different parts of the country because of differences in feed supplies, markets, farming practices, and inhabitants.

Yugoslavia vies with Rumania as the most important corn-producing country of the Danube Basin. Over a third of the country's arable land is devoted to corn production. While corn is the most widely used grain in hog-fattening operations and hogs are most numerous in the great corn-growing sections, the relationship between corn and hog production which exists in the United States does not exist in Yugoslavia. The total corn production of the country is far in excess of domestic food and feed requirements, and only a comparatively small part is consumed by hogs. On the smaller farms throughout the country, corn is produced largely for human consumption, and the size of those farms allows only unimportant amounts to be used for livestock feeding by peasants. It is only in the fertile sections along the Danube and Sava rivers that corn is regularly used as a feed for livestock, and the systematic feeding of corn to hogs is practiced principally by the owners of large farms and by commercial feeders.

^{1/} See also Technical Bulletin 126, "Agricultural Survey of Europe, The Danube Basin, Part 2", by Louis G. Michael, agricultural attache at Belgrade, United States Department of Agriculture, October 1929.

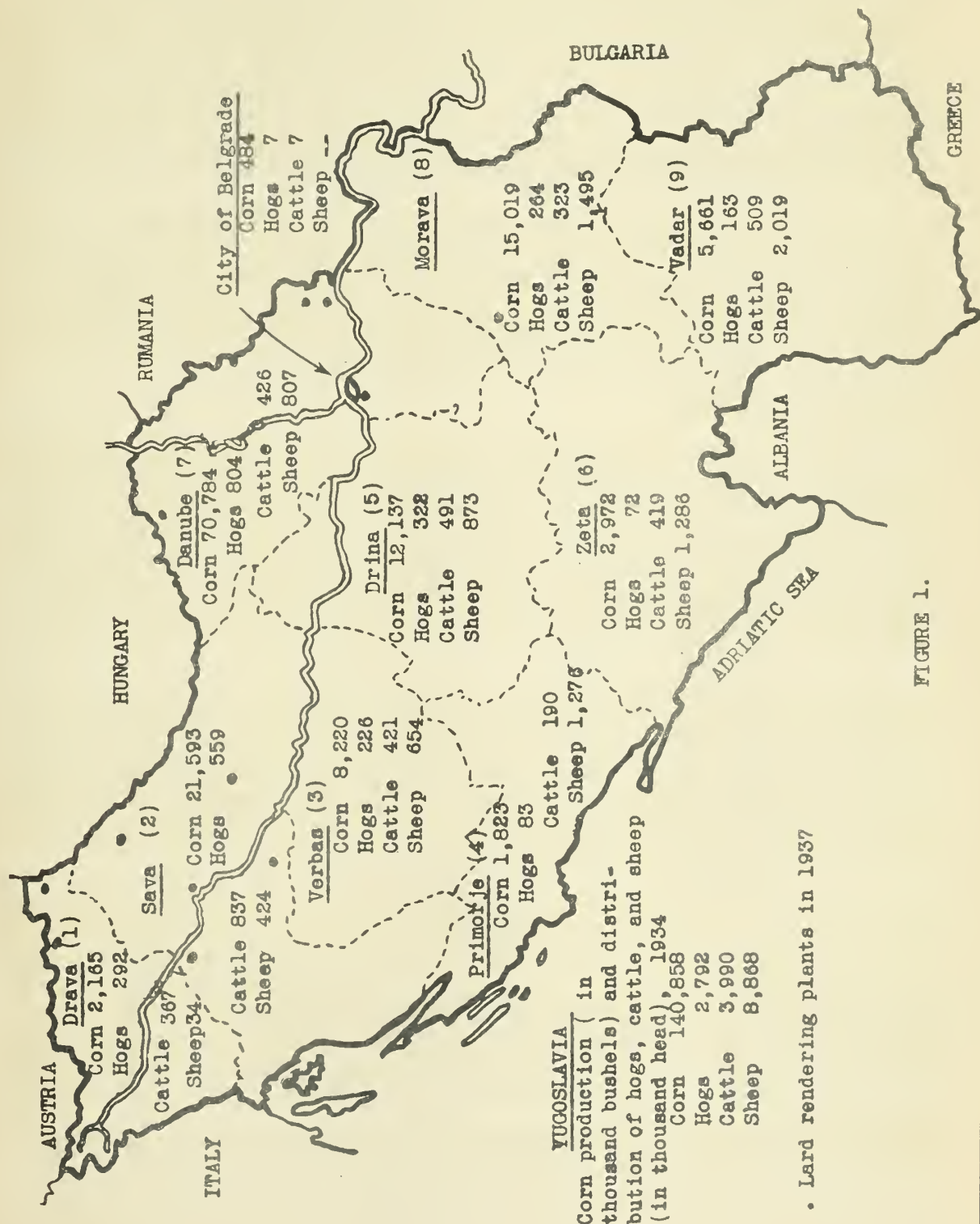


FIGURE 1.

. Lard rendering plants in 1937

Hogs are of most importance in areas adjoining the Danube and Sava rivers. 2/ In this territory, much of which was formerly a part of Austria-Hungary, hog raising has long been established. Prior to the war, this part of the country produced hogs for the industrial centers of the Dual Monarchy. German and Hungarian production practices still prevail to some extent, and hogs continue as the most important class of livestock. Practically all of the export hogs and pork products come from these northern departments.

In the southern and mountainous sections, the population is made up largely of Serbs and other traditionally pastoral people. In their farming operations cattle and sheep are more important than hogs. Hogs in this section usually are unimproved and are handled as scavengers. There are few cities and no important markets, with the result that hogs rarely enter other than local trade channels.

Trends in production

Hog numbers in Yugoslavia, unlike those in most European countries ravaged by the war, have not shown an increasing tendency in the post-war period. Numbers declined from about 3,900,000 in 1910-11, to about 2,500,000, the post-war low reached in 1923, and since then have shown comparatively minor changes. According to census data, never since 1921 have hog numbers reached the post-war peak of 3,370,000 of that year, the nearest approach being 3,133,000 in 1931. The preliminary figure for 1936 is 3,126,000 head.

The failure of hog numbers to recover to those of pre-war years probably can be explained by the reduction in export outlets that accompanied the establishment of new territorial boundaries and consequent tariff walls, the export taxes levied by the Yugoslav Government during the 1920's, the breaking up of large estates that formerly produced most of the hogs in the ceded territories, and the influx of pastoral people into the former principal hog-producing areas.

Annual fluctuations in hog numbers do not occur with a regularity that indicates a production cycle, nor, apparently, are they caused by hog-corn price relationships. These conditions are understandable when it is considered that most hogs are kept for supplying the rural population (80 percent of the total) with meat, and only a relatively small proportion of total production enters trade channels, in a finished form, where it would be subject to price influences. Changes in total numbers do not seem to be caused by changes in the country's total corn supplies.

2/ Since October 1929 Yugoslavia has been divided into nine political and administrative departments, called "banovinas." See figure 1.

although it appears that corn production in the principal hog-producing departments did have some influence on the increase in hog numbers that occurred in the period 1929-1931. There are indications that the decline in hog numbers in 1932, 1933, and 1934 and the increase in 1935 and 1936 were the result of contraction and expansion in export outlets, especially since the changes occurred mostly in the departments which produce most of the hogs for export. Death losses in some years also have been considerable, especially losses from hog cholera.

Table 1. Hog numbers in Yugoslavia, by classes,
1920-1926

| Year | Sows | Boars | Others | | Total |
|----------------------|-----------|-----------|-----------------|----------------|-----------|
| | | | Under 1 year | Over 1 year | |
| | Thousands | Thousands | Thousands | Thousands | Thousands |
| 1920..... | | | | | 3,268 |
| 1921..... | 743 | 94 | 2,337 | 199 | 3,373 |
| 1922..... | 665 | 74 | 1,606 | 543 | 2,887 |
| 1923..... | 600 | 39 | 1,322 | 516 | 2,497 |
| 1924..... | 615 | 61 | 1,309 | 533 | 2,518 |
| 1925..... | 685 | 66 | 1,447 | 604 | 2,802 |
| 1926..... | 692 | 66 | 1,394 | 654 | 2,806 |
| 1927..... | 648 | 62 | 1,406 | 654 | 2,770 |
| 1928..... | 661 | 58 | 1,366 | 578 | 2,663 |
| 1929..... | 656 | 57 | 1,313 | 649 | 2,675 |
| 1930..... | 715 | 58 | 1,470 | 681 | 2,924 |
| 1931..... | 754 | 64 | 1,547 | 768 | 3,133 |
| 1932..... | 696 | 56 | 1,371 | 740 | 2,863 |
| 1933..... | 649 | 51 | 1,270 | 686 | 2,656 |
| 1934..... | 696 | 53 | 1,349 | 694 | 2,792 |
| 1935..... | 726 | 54 | 1,410 | 742 | 2,932 |
| 1936 <u>a</u> /..... | 757 | 55 | 1,483 | 831 | 3,126 |

Belgrade office, Bureau of Agricultural Economics. a/ Preliminary, unpublished data.

Distribution of types and breeds

Prior to the war, the northwestern part of Yugoslavia (Croatia and Slovenia, then a part of Austria) was producing mostly meat hogs for local consumption and shipment to Austrian markets. Bosnia also shipped a few hogs each year to those markets. The rich corn-growing territory along the Danube and north of the Sava, then a part of Hungary, was producing lard hogs for shipment to industrial centers of the Dual Monarchy. The better farming sections of northern Serbia produced feeder hogs of a lard type, which were exported and finished in the great feeding establishments near Budapest. In general, the remainder of the territory that

makes up present-day Yugoslavia produced an unimproved type of hog, which was handled as a scavenger and had little commercial importance. The numerical and geographical distribution of hogs by types and breeds in Yugoslavia at present is by no means clear-cut but tends to follow much the same lines as in pre-war days, and the influence of pre-war production and marketing practices is still in evidence.

Lard-type hogs: From the standpoint of export production, lard-type hogs are of chief importance. Of these, Mangolicas, the well-known lard type of the Danube Basin, ^{3/} are the most numerous. They are raised principally in the rich corn-growing sections of the Danube and Sava Basins, and these areas produce most of the fat hogs that are exported. The Shumadija, the foundation stock of the Mangolica, is the principal improved strain in the old Serbian corn-growing departments of Drina and Morava. Other fat types are not of importance.

Meat-type hogs: The old Austro-Hungarian sections of the present Drava department and the western part of Sava are the chief areas for meat-hog production. In these areas the urban demand for lean meat is greater than in other sections, about 35 percent of the population being engaged in nonagricultural pursuits. It is also from these sections that meat hogs are exported to Austria. Yorkshire and Yorkshire crosses are the most numerous of the meat-type breeds, followed by the German breeds, Veredelte Landschwein and Edelschwein. Turopoljka, a native breed similar in type to American lard hogs and developed for both meat and lard production, also is important in Sava and the northern part of Vrbas. Berkshires are popular in Danube, and the influence of Berkshire blood is in evidence throughout the department.

Table 2. Distribution of hogs in Yugoslavia, by breeds, 1933

| Breed | Number | Per- cent | Breed | Number | Per- cent |
|-----------------------|---------|--------------|-----------------------|-----------|--------------|
| Shishka..... | 598,955 | 22.55 | Yorkshire crosses.... | 280,371 | 10.55 |
| Shishka crosses..... | 11,491 | .43 | Berkshire..... | 19,182 | .72 |
| Mangolica..... | 746,555 | 28.11 | Berkshire crosses.... | 93,229 | 3.51 |
| Mangolica crosses.... | 34,336 | 1.29 | Veredelte Landschwein | 192,759 | 7.26 |
| Shumadija..... | 146,835 | 5.53 | Moravka..... | 84,865 | 3.19 |
| Turopoljka..... | 129,274 | 4.87 | Pfeifer..... | 41,262 | 1.55 |
| Turopoljka crosses... | 17,595 | .66 | Cornwall..... | 9,720 | .37 |
| Bagun..... | 39,412 | 1.48 | Others..... | 118,124 | 4.45 |
| Yorkshire..... | 92,380 | 3.48 | Total..... | 2,656,345 | 100.00 |

Association of Yugoslav Agronomists.

^{3/} See "Hungarian Hog Industry", by Harry E. Reed, Foreign Crops and Markets, November 11, 1935.

Yugoslav Hog Industry



Figure 2 - Peasant's home and barn in northern Serbia. Usually one or two hogs have the run of the yard when not being grazed along waste lands.



Figure 3 - Children herding hogs on waste land in northern Serbia.



Figure 4 - Hog being driven to local market.

Figure 5 - Edelschwein
boar on a large es-
tate near Novi-Sad.

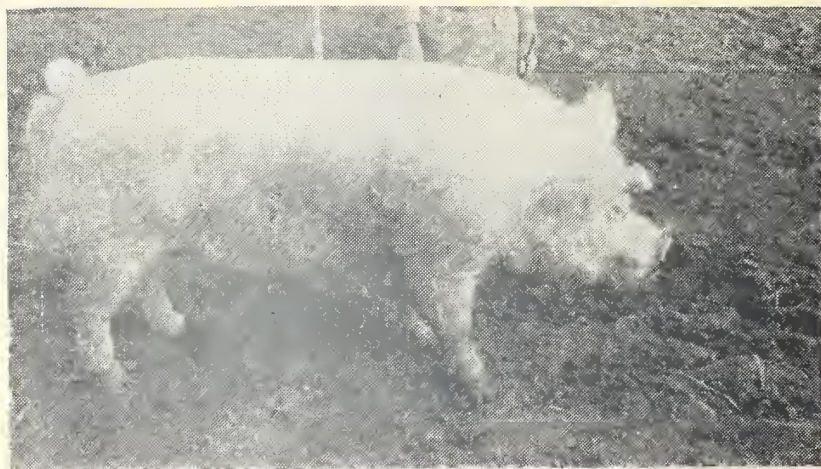


Figure 6 - Fat Shuma-
dija hogs, weighing
about 330 pounds
each, in the hold-
ing pens of a lard
and sausage plant,
Jagodina, Serbia.



Figure 7 - Hog barns
at the Zagreb Mu-
nicipal Market.



Of the unimproved strains, the Shishka, the old native hog of Serbia, predominates. It is found in all parts of Yugoslavia but is most numerous in the southern and mountainous areas. The hardiness of the Shishka permits it to withstand conditions and survive where improved breeds could not.

The use of meat-type breeds has greatly increased during the post-war period, particularly during the past few years. Their indiscriminate use in crossing can be seen in all sections. It is probable that, as a result of the increased use of meat-type hogs, better meat hogs are being produced in the old Austrian section. It is extremely doubtful, however, whether the quality and uniformity of hogs over the entire country have shown much improvement.

In the old Hungarian and adjoining sections, where most of the lard hogs are produced, hog strains have undergone some deterioration. The subdivision of large estates into small peasant holdings destroyed much of the incentive and made it difficult to breed and maintain efficient strains of Mangolicas. Serbian peasants, who were placed on the small holdings, brought with them, in many cases, their own unimproved stock and later crossed and recrossed them with meat types and such other hogs as fell into their hands. Community herds, in which both boars and sows run, are in a large measure responsible for the conglomeration of types seen in this former Mangolica area. In 1906, the Austro-Hungarian agricultural protective tariff went into effect and in August of that year shipments of swine from Serbia abruptly ceased. It is probable that thereafter interest in breeding Shumadijas dwindled and that even before the war the breed was deteriorating. Since the war, crossing with unimproved native strains and the indiscriminate use of meat-hog blood has been such that the Shumadija is rapidly disappearing. At present, good types and strains of Mangolicas are to be found only in the hands of the larger operators who realize the importance of maintaining efficient strains. These operators also have used meat hogs for crossing, but in many cases the cross-bred pigs have been marketed and have not been used regularly for breeding purposes.

It is questionable whether the widespread introduction of meat-hog blood has been in the best interests of the Yugoslav hog industry. It is to be noted, however, that good strains of Mangolicas and Shumadijas have such characteristics as hardiness, late maturity, ability to grow and subsist entirely on grass or waste feeds and to fatten quickly when placed on a corn ration, which peculiarly adapt them to the farming system followed over a large part of the country. The cross-breds, while producing a more desirable quality of meat, lack these characteristics. Their comparative lack of hardiness is a considerable drawback under Yugoslav conditions.

The Association of Yugoslav Agronomists in 1935 published a pamphlet, "Our Best Types of Hogs", in which Mangolicas were recommended

as the hog most suited to meet Yugoslav farming conditions and home and export demand. More recently, developments in Yugoslavia's principal live-hog export outlets, Austria and Czechoslovakia, have shown the wisdom of that recommendation. In the latter two countries, domestic hog production is directed almost entirely toward meat hogs, and fat hogs are imported duty free, or at a very low tariff, from Danube Basin countries.

With the increase in domestic production in Austria and Czechoslovakia, the pork from imported fat meat hogs in these countries has been excessive and has depressed domestic hog prices. Fat, more than pork, is needed in Austria and Czechoslovakia; and, recognizing that the lard yield of Mangolicas is greater and the pork yield less than from fattened meat hogs, those countries may find it advisable to make tariff adjustments that will place meat hogs at a disadvantage. Should discrimination against fat meat hogs take place, Yugoslav export hog producers who have sacrificed the fat-producing ability of the Mangolica in order to obtain early maturity and better quality of meat are likely to find themselves at a disadvantage.

Production practices

Hog production practices in Yugoslavia range from the most primitive sort to the most approved Hungarian system of fat-hog production and the modern German method of producing meat hogs. Most of the production methods, however, cannot be classed as modern production practices.

In the backward areas, hogs are handled largely as scavengers. Sows generally produce litters only once a year, usually in the spring. For the greater part of the spring, summer, and early fall, the hogs subsist on what they can pick up in forests and waste places or are grazed and herded on commons and roads along with sheep and geese. In the autumn, if the harvest has exceeded the needs of the peasant family, the hogs, or such of them as may be needed, are fattened. If feed is not available, those needed for meat are slaughtered in a half-finished condition. Rarely do hogs slaughtered for home consumption in the territory south of the Sava River exceed 175 pounds live weight. Those not needed for food are usually roughed through the winter on such feeds as are available and grazed again the following summer. See figures 2 and 3.

Even in sections where feeds are more plentiful, the practices followed by small peasants are somewhat similar to those described above. Hogs are usually run in community herds during the day and returned to the home sty at night. In the most fertile districts, of course, a larger percentage of the hogs is fattened after harvest.

In the meat-hog areas, production practices are similar to those in Germany. Sows are farrowed twice a year; grass, when available, is used for the sows and pigs; and fattening is usually done under cover. Potatoes, barley, and corn are the principal feeds, supplemented on occasion with bran and other mill feeds, and in season with pumpkins, roots, etc. As a group, farmers in this section are probably the most progressive in Yugoslavia and they make an effort to use balanced rations as far as is possible.

The best fat-hog production practices are to be found in the old Hungarian section, now the Danube department. See figure 1. In this section the Hungarian system of producing fat Mangolicas is still followed by commercial feeders, farmers' cooperative feeding and marketing organizations and the few remaining large estates. On the better-managed farms, a two-litter system is followed. In that section of the department known as the Banat, Mangolica feeder-pig production has become an important industry. Commercial feeders in the more northern sections of the region buy feeder pigs to supplement their own production and to permit them to keep their feed lots going throughout the year. Most feeding, however, is conducted in the fall and winter months.

Corn is the basis of the fattening ration. Balanced rations are used by the best feeders, the proportion of protein being reduced as the feeding period progresses. The few feeding establishments, private, cooperative, and commercial, that are finishing hogs for export markets have hogs of good type and quality. Their low production costs, due largely to cheap feed and cheap labor, give Yugoslav fat hogs a competitive advantage on the markets of Central Europe. The efficient practices of the few large operators, however, have not been adopted and followed by the many small farmers in the surplus corn-producing areas.

Hog diseases

Yugoslav hogs are very hardy in comparison with those of northern European countries, but the unhygienic conditions under which they are kept when in close quarters and the running in community herds create a disease problem. Hog cholera is the worst of the hog diseases prevalent in Yugoslavia, and periodic outbreaks are reported to be severe enough at times to cause appreciable reductions in hog numbers.

To stamp out hog cholera, Yugoslav law provides for compulsory destruction of infected animals. Difficulties with peasant owners made such a procedure inexpedient, however, and the Government is at present promoting the use of hog cholera serum. In affected areas, the Government provides free treatment for infected animals that are reported to the authorities but does not provide free treatment for noninfected animals. The use of serum has increased greatly, particularly by the

most intelligent farmers who own the best hogs. Reported cases, however, showed no tendency to decline until 1936. Obviously, in a country like Yugoslavia, the very low value of the average hog and the relatively high cost of the serum precludes the general use of serum as a preventive against cholera. There are four privately owned plants engaged in the production of serum at present. The output of these plants, however, would not be great enough to meet the country's requirements if the use of serum were general.

Hog Marketing Practices

Marketing methods are simple, and marketing facilities are less developed than in any other important hog-producing country in Europe, with the possible exception of Poland. Such a situation is to be expected since hog production is directed largely toward supplying the requirements of the peasants and only a small part of total production enters commercial channels. Marketing costs are low. The only charges, other than transportation, are 2 dinars (4.6 cents) for a certificate of ownership, issued by the local authorities and required for all hogs sold in Yugoslavia, and the market fee, usually 2 dinars.

Rural markets

Most of the residents in rural areas have hogs, and consequently there is little local demand. Since the quality of most hogs in the hands of peasants is poor, traders and buyers for city butchers and packing establishments have little interest in them. The peasant, with few, poor-quality hogs, is dependent on weekly village markets, where he may or may not find a buyer. Demand at such markets comes largely from other peasants, local villagers purchasing for their own use, and local restaurants. At the better village markets, traders sometimes operate, buying and sorting with the intention of hawking their purchases on larger markets or feeding further and selling later to butchers. Hogs are driven or hauled in wagons to markets. At village markets they are sold by the head and seldom weighed, and the owner takes what the purchaser is pleased to pay. See figure 4.

Municipal markets

Municipal markets are maintained at Belgrade, Zagreb, Sarajevo, and a few other important centers. Covered holding pens and scales are found at such markets. Hogs are brought to municipal markets by traders, who have purchased direct from farmers or at village markets, and by farmers who live in the vicinity. In general, the hogs offered on municipal markets are not of the best quality. Most sales are made direct between buyer and seller, and commission men seldom operate on the municipal markets. Cooperative marketing has not developed to the point where cooperatives offer hogs on municipal markets.

Direct sales to processors

The best hogs, both meat and fat, are sold direct. Butchers and packing plants have their own buyers, who know where the good hogs are located or else buy through traders who operate on commission. The good hogs are seldom offered on markets. The large operators, who produce hogs for export, have their own export quotas and ship hogs direct from their feed lots to markets in Vienna or Prague, where they are sold by commission men operating for the Yugoslav owner. Cooperative marketing associations, handling hogs for members, make direct sales to processors or ship the hogs to the cooperative packing plant or export them as live hogs. In the fat-hog-producing territory a cooperative feeding and marketing organization has been established, which also feeds for its members and exports the finished hogs. Traders who have export quotas also buy, assemble, and sort hogs for export.

Under Yugoslav marketing conditions, there is no uniformity in hog prices over the country and little movement of hogs from one market to another. The most important part of the country's hog marketing is conducted in the form of direct sales, and satisfactory market-price and receipt data are not available.

Processing FacilitiesAbattoirs under municipal management

Municipal abattoirs are maintained at all principal towns of the country. As is customary in other European cities, butchers and slaughterers use the facilities provided by the abattoirs, for which they pay a fee. The abattoir at Zagreb is one of the most modern and fully equipped in Europe, providing in addition to complete killing facilities ample cold storage and a wholesale meat market. See figure 7. The abattoir at Belgrade is of pre-war construction, but modern equipment has been provided. In the smaller communities, butchers slaughter on their own premises.

Hogs are usually killed and dressed at the abattoir, and the carcasses sold whole or removed to the butchers' own premises for further processing. It is customary to remove the skin from fat-hog carcasses while they retain body heat. Pigskin is used extensively in the Yugoslav leather industry.

Yugoslav data relating to slaughter weights are meager and are available only for hogs slaughtered at the Belgrade abattoir. They show wide variations in the annual average slaughter weight - 212 to 225 pounds - and do not appear to be indicative of slaughter weights for the whole country. Annual inspected hog slaughter also varies widely from year to year, and is relatively low when total hog numbers are considered. It is to be remembered, however, that most of the hogs produced in

Yugoslavia are slaughtered at home. Inspected slaughter plus live-hog exports serve merely as a guide to the number of hogs which enter commercial channels.

Table 3. Yugoslav inspected slaughter and live-hog exports, 1927-1936

| Year | Inspected slaughter | | | | | Live-hog exports | Approximate number entering commercial channels |
|----------|---------------------|-----------|------------|--------------|---------|------------------|---|
| | Fat hogs | Lean hogs | Young pigs | Sucking pigs | Total | | |
| | Number | Number | Number | Number | Number | Number | Number |
| 1927.... | 563,629 | a/ | 76,904 | a/ | 640,533 | 421,000 | 1,061,533 |
| 1928.... | 554,636 | a/ | 91,581 | a/ | 646,217 | 221,000 | 867,217 |
| 1929.... | 520,103 | 3,049 | 49,314 | 3,049 | 575,515 | 225,000 | 800,515 |
| 1930.... | 560,854 | 3,919 | 77,062 | a/ | 641,835 | 248,000 | 889,835 |
| 1931.... | 618,466 | 16,934 | 122,287 | a/ | 757,687 | 273,000 | 1,030,687 |
| 1932.... | 425,642 | 50,261 | 93,097 | 3,797 | 572,797 | 274,000 | 846,797 |
| 1933.... | 462,031 | 4,905 | 56,935 | 197 | 524,068 | 208,000 | 732,068 |
| 1934.... | 442,504 | 6,147 | 69,850 | 494 | 518,995 | 141,000 | 659,995 |
| 1935 b/. | - | - | - | - | - | 248,000 | - |
| 1936 b/. | - | - | - | - | - | 301,000 | - |

Yugoslav Ministry of Agriculture.

a/ Not separately classified. b/ Slaughter figures not available.

Packing plants and their products

In addition to the abattoirs, there are 13 small packing plants, located in the principal hog-producing sections, which process pork in all forms for domestic consumption and export. Hams, picnics, smoked loins, all kinds of sausages including several varieties of salami, and lard are the principal products. The plants also sell carcasses and wholesale cuts of fresh pork and prepare and export split carcasses. One plant, a cooperative, located near Zagreb and reported to be financed by British-Belgian interests, has a monopoly on the export of Wiltshire sides to England.

Lard for export is made at all of the 13 packing plants. For the past few years, export lard production has been conducted under permits obtained from the Ministry of Commerce, which also specifies minimum requirements for export lard and maintains an inspection service to enforce compliance. Yugoslav lard is an open-kettle-rendered product and, like other Danubian lards, has considerable color and odor and does not keep well. Yugoslav lard is also lacking in uniformity and irregular in supply.

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The law provides that meat sold for human food in Yugoslavia must be inspected by qualified veterinarians. The enforcement of this regulation, however, is questionable, and it is likely that an appreciable part of the meat offered for sale in Yugoslavia has not been inspected. At municipal abattoirs and the 13 packing plants, however, an efficient pre- and post-mortem inspection is maintained. The inspectors seem to be primarily concerned with the detection of trichinae. Laboratories are maintained at Belgrade and Zagreb where the glands and other parts of suspected animals can be subjected to microscopical and bacteriological examination.

Domestic Consumption

Meat consumption data for Yugoslavia are not available, but it is generally assumed that pork is the most important meat in the diet. In the southern and mountainous regions, where there are about 4,000,000 Moslems who do not eat pork, mutton consumption exceeds pork consumption. In the principal hog-producing areas, however, pork is the principal meat, and per-capita meat consumption in those sections is higher than in the important sheep areas. In general, the peasants and lower classes have a very low standard of living. Meat is seldom eaten, except on holidays and during the summer when field work is heaviest.

Holiday and religious customs are important factors in pork consumption. It is customary on several holidays, particularly Christmas, Easter, and the family holiday, to eat roast suckling pig. Roast pig is regarded as a "gift from the gods", and even among the poorer families that cannot afford a whole roast pig a small portion is obtained so that each member may have at least a symbolic "nibble." Roast young pig is obtainable at all restaurants in season, and the year around at better-class restaurants. This custom is responsible for the annual slaughter and consumption of a relatively large number of suckling pigs.

Export Trade

Assuming the annual hog census data to be approximately correct, Yugoslavia ranks low among European countries in number of hogs per 100 inhabitants. Exports of hogs and pork products are possible only because domestic consumption is low. The low standard of living and the low buying power of the Yugoslav people are not conducive to a demand for quality products; consequently, the small proportion represented by quality hogs seeks an export rather than a domestic outlet.

Live hogs

Yugoslavia's export trade in live hogs dates back to pre-war days. During the period 1930-1934 Yugoslavia ranked second only to Poland among

the live-hog-exporting countries of continental Europe, and in 1935 and 1936 exports of live hogs from Yugoslavia exceeded those from any other country. Austria, which was the principal outlet before the war, is also the most important market for Yugoslavia's live-hog exports at present and takes approximately 75 percent of the total. Czechoslovakia takes about 20 percent of total exports, the remainder going mostly to Italy and Switzerland. In 1936, however, Germany took more than 5 percent of the total, becoming Yugoslavia's third best customer for live hogs.

Table 4. Annual exports of live hogs from Yugoslavia,
by countries of destination, 1922 to 1936

| Year | Austria | Czecho- slovakia | Italy | Others | Total |
|-----------|-----------|---------------------|-----------|-----------|-----------|
| | Thousands | Thousands | Thousands | Thousands | Thousands |
| 1922..... | 32 | 68 | 1 | 16 | 117 |
| 1923..... | 99 | 58 | 2 | 1 | 140 |
| 1924..... | 54 | 28 | 3 | 1 | 86 |
| 1925..... | 43 | 25 | 1 | 1 | 70 |
| 1926..... | 235 | 59 | 1 | 3 | 298 |
| 1927..... | 323 | 94 | 2 | 2 | 421 |
| 1928..... | 145 | 63 | 8 | 5 | 221 |
| 1929..... | 156 | 40 | 16 | 13 | 225 |
| 1930..... | 201 | 26 | 6 | 15 | 248 |
| 1931..... | 187 | 64 | 5 | 17 | 273 |
| 1932..... | 191 | 55 | 20 | 8 | 274 |
| 1933..... | 150 | 47 | 5 | 6 | 208 |
| 1934..... | 114 | 23 | 4 | - | 141 |
| 1935..... | 142 | 75 | 1 | - | 218 |
| 1936..... | 152 | 119 | 1 | a/ 19 | 301 |

Belgrade office, Bureau of Agricultural Economics.

a/ Including 18,000 head to Germany.

As a live-hog-exporting country, Yugoslavia has the advantages of cheap feed, cheap labor, low production costs, and proximity to export markets, principally Vienna and Prague. Austria and Czechoslovakia are well equipped to process the imported live hogs, and the Yugoslav trade has benefited in recent years from the policies adopted by these countries, which favor the import of fats in the form of live hogs.

Fat hogs, weighing in excess of 330 pounds, make up the greater proportion of live-hog exports. Meat hogs are also exported, but their importance does not compare with that of fat hogs. Practically all live-hog exports during the last few years have been conducted under the clearing agreements which Yugoslavia has made with deficit hog and fat countries of Central Europe. Annual quotas are fixed under terms of the several agreements, but monthly and weekly quotas vary with demand in

the deficit countries. On occasion, supplementary quotas have been granted. The seasonal feeding period in Yugoslavia tends to coincide with seasonal demand in the importing countries, and exports are greatest during the late fall, winter, and early spring months.

Table 5. Monthly exports of live hogs from Yugoslavia, 1931 to 1936

| Month | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 |
|----------------|---------|---------|---------|---------|---------|---------|
| | Number | Number | Number | Number | Number | Number |
| January..... | 19,601 | 23,250 | 25,079 | 18,310 | 14,635 | 22,495 |
| February..... | 18,202 | 17,853 | 22,298 | 10,752 | 9,614 | 20,118 |
| March..... | 18,328 | 22,539 | 19,893 | 9,482 | 13,305 | 23,860 |
| April..... | 17,002 | 20,743 | 15,766 | 8,854 | 13,184 | 20,756 |
| May..... | 15,898 | 20,082 | 7,086 | 10,353 | 18,921 | 22,020 |
| June..... | 19,766 | 16,792 | 11,178 | 6,618 | 16,043 | 23,918 |
| July..... | 29,303 | 19,482 | 16,303 | 7,997 | 19,675 | 24,637 |
| August..... | 33,156 | 28,817 | 20,198 | 11,891 | 25,709 | 29,544 |
| September..... | 27,741 | 24,461 | 18,416 | 10,791 | 20,134 | 27,579 |
| October..... | 29,744 | 27,960 | 18,589 | 14,786 | 26,662 | 23,706 |
| November..... | 23,566 | 23,038 | 14,871 | 16,791 | 20,972 | 22,935 |
| December..... | 21,143 | 28,722 | 18,434 | 14,821 | 19,181 | 39,448 |
| Total..... | 273,450 | 273,739 | 208,111 | 141,446 | 218,035 | 301,016 |

Belgrade office, Bureau of Agricultural Economics.

The quotas granted to Yugoslavia by the clearing countries are administered and reallocated to Yugoslav exporters by the Institute for the Control of Livestock Exports, an agency set up under the Ministry of Commerce. Cooperatives are allocated 40 percent of the quota, trader-exporters 40 percent, and individual farmers and feeders 20 percent. The Institute charges a fee of 4 dinars (about 9 cents) per hog for issuing export permits. Strict veterinary control is required and exercised on live-hog exports.

Pork

Carcasses and fatbacks make up the greater part of pork exports from Yugoslavia. Exports of cured or processed pork are not of great importance. As for live-hog exports, Austria has always been Yugoslavia's best customer, but in 1935 and 1936 Germany's great need for fats and the operation of the German-Yugoslav clearing agreement made Germany the most important buyer of Yugoslav pork. All pork exports are made under permits issued by the proper authorities, and those to clearing countries are made under quotas allocated to shippers by the Institute for the Control of Livestock Exports.

Table 6. Annual exports of pork from Yugoslavia, by countries of destination, 1930 to 1936

| Year | Austria | Czecho-slovakia | Italy | Germany | England | Total |
|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | 1,000 pounds | 1,000 pounds | 1,000 pounds | 1,000 pounds | 1,000 pounds | 1,000 pounds |
| 1930..... | 5,732 | 0 | 661 | 0 | 0 | 6,393 |
| 1931..... | 3,528 | 0 | 661 | 0 | 0 | 4,189 |
| 1932..... | 5,291 | 220 | 441 | 0 | 0 | 5,952 |
| 1933..... | 3,307 | 0 | 441 | 0 | 0 | 3,748 |
| 1934..... | 1,543 | 0 | 220 | 0 | a/1,323 | 3,086 |
| 1935..... | 4,409 | 0 | 0 | 5,511 | a/1,764 | 11,684 |
| 1936..... | 6,173 | 0 | 0 | 8,598 | a/1,102 | 15,873 |

Belgrade office, Bureau of Agricultural Economics.

a/ Principally Wiltshire side exports, arising from the British scheme, which greatly increased prices on British markets and also granted weekly import quotas to "minor supplying countries."

The preparation of whole or split carcasses for export is a profitable business, but when further processing is done in Yugoslavia, costs advance to such an extent that much of the competitive advantage gained from cheap corn and low hog-production costs is lost. Plant and equipment are not sufficient to permit large-scale operations, and costs are also advanced by seasonal aspects of hog supplies. Furthermore, processing costs in Yugoslavia are, like those in Hungary, greatly increased by the numerous slaughter taxes, fees, and other taxes levied on plants and butchers by the State and local governments. These taxes and fees are not uniform over the whole country, but amount to about 2 dinars per kilogram (2 cents per pound) live weight in the western sections and about 2.50 dinars (2.6 cents) in the eastern part of the country. The taxes are not offset directly by export subsidies, although the compulsory export of pork required in order to receive the subsidy paid on lard exports has, no doubt, encouraged pork exports. With the exception of carcass exports, however, pork exports from Yugoslavia are not important.

Lard

Yugoslav lard exports did not become important until late 1934, when trade agreements with Czechoslovakia and Germany gave them a great impetus. Indeed, prior to 1930 more lard was usually imported into Yugoslavia than was exported. Czechoslovakia and Germany have been the principal markets for Yugoslav lard.

Despite the fact that export lard must conform to minimum requirements specified by the Ministry of Commerce, Yugoslav lard does not have

the characteristics which are demanded by most European markets. In addition to being soft and having poor keeping qualities, a yellowish color, and considerable odor, Yugoslav lard lacks uniformity and is irregular in supply. The total quantity of lard produced in the country is not regularly of sufficient volume to permit the building up of a well-established trade. Like Hungarian lard, it is regarded as "extra" among European distributive agencies and is handled only when American lard and other established descriptions are not available in the sufficient quantities. Consequently, Yugoslav lard has moved in quantity only to such markets as Czechoslovakia and Germany where fats are badly needed and where competition from better-quality lard has been reduced or removed by the operation of quotas and other import restrictions.

Table 7. Annual lard exports from Yugoslavia by countries of destination, 1930 to 1936 a/

| Year | Czechoslovakia | Italy | Germany | Austria | Other countries | Total |
|-----------|----------------|--------------|--------------|--------------|-----------------|--------------|
| | 1,000 pounds | 1,000 pounds | 1,000 pounds | 1,000 pounds | 1,000 pounds | 1,000 pounds |
| 1930..... | 51 | 2 | 0 | 240 | 4 | 297 |
| 1931..... | 2,816 | 2 | 0 | 318 | 1 | 3,137 |
| 1932..... | 3,866 | 116 | 64 | 508 | 0 | 4,554 |
| 1933..... | 3,175 | 45 | 25 | 196 | 1 | 3,442 |
| 1934..... | 2,515 | 15 | 1,744 | 22 | 12 | 4,308 |
| 1935..... | 3,473 | 86 | 6,808 | 142 | 1 | 10,510 |
| 1936..... | 8,100 | 7 | 9,026 | 118 | 25 | 17,276 |

Belgrade office, Bureau of Agricultural Economics.

a/ Includes the following items of the Yugoslav tariff: Rendered lard, unrendered fatsides and fatbacks, unrendered bellyfat.

Yugoslav lard does not have price advantages that would move it readily in competition with lard from really important lard-producing countries. When lard is processed in Yugoslavia, a surplus of cheap pork ensues. To overcome this difficulty the Government has paid an export subsidy on lard amounting to from 3 to 6 dinars per kilogram (3 to 6 cents per pound). In order to receive the subsidy the exporter is required to export 5,000 kilograms (11,000 pounds) of pork for each 10,000 kilograms (22,000 pounds) of subsidized lard. During the years 1935 and 1936, in which Yugoslav lard exports reached record levels, the pork surplus was not unduly burdensome because of the compulsory export in order to receive the lard subsidy and the increased buying of salami and other provisions by Italy for military purposes. In addition to the subsidy paid by the Yugoslav Government, preferential tariff treatment has been granted to Yugoslav lard by both Germany and Czechoslovakia, amounting in the latter case to duty-free import.

Table 8. Monthly exports of rendered lard from Yugoslavia, 1932 to 1936 a/

| Month | 1932 | 1933 | 1934 | 1935 | 1936 |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | 1,000 pounds | 1,000 pounds | 1,000 pounds | 1,000 pounds | 1,000 pounds |
| January..... | 61 | 252 | 122 | 801 | 2,249 |
| February..... | 50 | 333 | 2 | 1,066 | 543 |
| March..... | 169 | 416 | 3 | 816 | 2,219 |
| April..... | 140 | 239 | - | 556 | 1,756 |
| May..... | 120 | 83 | 57 | 662 | 963 |
| June..... | 183 | 2 | 1 | 154 | 1,532 |
| July..... | 48 | 235 | 293 | 491 | 470 |
| August..... | 180 | 166 | 320 | 973 | 1,428 |
| September..... | 337 | 66 | 646 | 721 | 1,104 |
| October..... | 230 | 29 | 379 | 1,242 | 938 |
| November..... | 231 | 90 | 334 | 1,513 | 1,890 |
| December..... | 411 | 148 | 1,162 | 987 | 1,292 |
| Total..... | 2,160 | 2,064 | 3,319 | 9,987 | 16,384 |

Belgrade office, Bureau of Agricultural Economics.

a/ Excluding unrendered fatbacks, fatsides, and bellyfat.

During the recent years of reduced American competition, Yugoslav lard exports have increased. While this increase was made possible by certain production advantages and was aided by political connections with importing countries, it was largely the direct result of Yugoslavia's ability and willingness to accept the industrial goods of deficit countries in exchange for hogs and pork products. The greatest limiting factor in this trade has been Yugoslavia's ability to absorb the goods offered in payment. Since self-sufficient peasants make up the greater part of the population and domestic industrial production has also been expanded, it is not surprising that clearing difficulties have arisen. In the trade with Germany it has been necessary to make adjustments that will result in reduced exports of hog products to that country. Future trade with Austria and Czechoslovakia will, of course, depend to some extent on policies followed by those countries with respect to their own domestic hog industries.

Government Aid

The limitations placed on hog production by the poor quality and inefficiency of most of the hogs, the inadequate marketing system, and the limited export outlets are recognized by the Government. During the post-war period, the Yugoslav Government has had more pressing problems than those relating to hog production. The importance of agriculture in the national economy, however, has prompted such consideration and aid as has been given to the hog industry.

In a limited way, the Government has aided in the purchase and distribution of good breeding stock to farmers. This program, however, has not assumed sufficient proportions, nor has it been carried on for sufficient time, for its effects to be seen.

Government efforts to improve the marketing system have been limited largely to the assistance given to cooperatives. In addition to financial assistance, the Government has arranged for cooperatives to receive the larger share of export quotas granted Yugoslavia by clearing countries and Great Britain. Somewhat improved marketing conditions have resulted from cooperative operations; the improvement being most noticeable in marketing for export. General marketing conditions over the entire country, however, have shown little change.

The greatest assistance given to the hog industry by the Government, however, has been the negotiation of trade agreements that have assured Yugoslav exports of hogs, carcasses, and lard to Central European countries. In addition to obtaining these markets, Government control of quotas and exports has partially corrected numerous objectionable practices and excessive charges to which Yugoslav exporters were subjected by foreign commission agents, particularly those operating at Prague. In order to assure the quality and protect the name of Yugoslav products in foreign markets, minimum quality requirements have been adopted for export lard.

Conclusions

Yugoslavia could be, but is not now and is not likely to become, a great hog-producing country. From a production point of view, the advantages derived from the country's great corn production and low labor costs are at present largely offset by the poor quality and inefficiency of the majority of the hogs and by the limitations placed on production because of the small size of the average farm and the conservatism of the peasants. A correction of the situation in the near future is precluded by the reluctance of the peasants to abandon old or to adopt new practices and by the lack of adequate incentives for a change.

While an expansion in hog production is possible, it could, under present conditions, take place only by an increase in the operations of the few large estates, cooperatives, and commercial feeders. The limited export outlets and the lack of domestic demand, however, appear to make an increase in hog production inadvisable.

It appears that Yugoslavia will continue to supply live hogs, carcasses, and fats to the deficit countries of Central Europe in approximately present quantities. The exploitation of Yugoslav political connections with importing countries in expanding this trade seems to

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be precluded by the low buying power of the Yugoslav people and the expanding domestic hog production in Yugoslavia's principal export outlets. It is unlikely that Yugoslav competition will be felt by other exporting countries to any extent in other markets. The failure of Yugoslav pork products to penetrate other than those markets protected by clearing agreements, especially during a period of reduced United States competition and rising prices, is indicative of the limited competitive ability of the Yugoslav hog industry, at least in its present status.

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RECENT DEVELOPMENTS
IN
FOREIGN AGRICULTURAL POLICY

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AGRARIAN POLICY DEVELOPMENTS IN ARGENTINA

The policy of the Argentine Government toward agriculture during the year ended June 30, 1937, according to a report received in the Bureau of Agricultural Economics from the Buenos Aires office, continued to emphasize satisfactory prices to producers, improvements in marketing facilities, adjustment of wine-grape acreage to consumption requirements, and expansion in cotton acreage.

Because of improved world prices, the guaranteed minimum prices for new-crop wheat and linseed were suspended on December 3, 1936, and on January 29, 1937, the same action was announced in respect to the new corn crop. The Grain Regulation Board was retained, however, so that its functions might be resumed at any time deemed necessary by the President.

The National Meat Board during a part of the year paid a subsidy to meat-packing establishments for each pound sterling of exchange created by exports of chilled beef to the United Kingdom. The packing establishments, in return, agreed to pay producers during the period of the subsidy not less than a fixed minimum price for chiller-grade steers.

The Meat Board during the year also launched a program aimed at the establishment of a producer-owned marketing organization to specialize in, and to improve, the marketing of livestock and meats in the interior markets of the country. The Government has indicated that the establishment of producer-owned refrigeration plants is an integral part of its policy of improving the system of livestock marketing.

The Wine Regulating Board, instead of following its previous policy of buying surplus grapes and either destroying them or utilizing them for purposes other than wine, indemnified grape growers for destroying excess vineyards. A total of 1,463 growers offered 32,000 acres of vineyards for destruction and indemnification. The Board, however, accepted only 844 offers, comprising 17,000 acres, from which it was estimated 309,000 hectoliters of wine would have been produced. The relation of wine stocks and production to consumption has now reached a satisfactory balance.

The Dairy Regulating Board continues its policy of distributing exchange profits from dairy products sold abroad to farmers selling milk and cream for butter manufacture. The monthly bonuses paid to

dairy farmers per kilogram of butterfat delivered to creameries have varied between 30 centavos in November 1936 and 10 centavos in June 1937 (about 4.5 cents and 1.5 cents per pound).

The activities of the Cotton Board during the past year have been largely of an investigational and educational nature designed to stimulate further expansion in cotton acreage. Special attention was devoted to preparing packages of special seed for distribution to farmers in regions not growing cotton at the present time.

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CANARY ISLANDS ADJUST TOMATO OUTPUT TO EXPORT DEMAND

A recent decree issued by the government of the Canary Islands requires a reduction of 20 percent in the land area now utilized for the cultivation of tomatoes and the conversion of that land to corn, according to a report received in the Bureau from Consul Winfield Scott at Tenerife. The objective is to adjust production to the export demand.

The order represents the culmination of repeated protests of local interests against the uncontrolled cultivation and shipment of tomatoes, 80 percent of which are sent to the British market. Approximately 224,000,000 pounds were exported in 1936-37. The planting season begins in July. Shipments commence in October, reach their peak about March 15, and gradually decline during April and May.

The area devoted to tomatoes has increased steadily in recent years, but the net returns to growers have declined to such an extent that there is no longer any assurance of a reasonable margin of profit, according to the consul. In numerous instances during the past season, tomatoes already packed and awaiting shipment to the British market were thrown into the sea upon receipt of cables stating that the market was oversupplied.

The staple diet of the rural population of the Canary Islands is "gofio", prepared from either corn or wheat, which normally is supplied by Argentina. The local production of corn and wheat has been negligible, since it was considered preferable to concentrate on the production of bananas, tomatoes, potatoes, and onion seed for the export market.

The decree also provides for strict regulation of tomato exports according to quality and for quantitative reductions in exports if export prices at port of shipment decline to 9 pesetas (56 cents) per basket containing 25 pounds.

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OPERATION OF THE HUNGARIAN LAND SETTLEMENT LAW

A statement recently issued by the Hungarian Ministry of Agriculture, summarizing the developments which have taken place in that country under the Land Settlement Act of 1936, during the first year of its operation (July 1, 1936 - June 30, 1937), has just been received in the Bureau from the American Embassy at Budapest.

In the statement, the Ministry points out that the three principal aims of the Hungarian land-settlement program are to aid dispossessed small farmers, to increase the number of small family-sized farms, and to place agriculturists on rented farm properties.

With these objectives in mind, the Ministry of Agriculture purchased 26,000 acres of land during the year ended June 30, 1937. Of the total purchases approximately 20,000 acres were turned over to settlers, and the distribution of the remaining 6,000 acres is progressing. A total of 2,986 farmers shared in the distribution of the 20,000 acres.

The statement reveals that 34.6 percent of the 20,000 acres distributed during the year was turned over to small landowners in order to enlarge their holdings; 49.4 percent was made into farms of 7 acres or more and 13.8 percent into middle-sized farms; and 2.2 percent was used for house lots and public grounds.

In addition, small tenures arranged by the Ministry placed more than 1,500 families on approximately 16,000 acres of land during the year under review. As a result, approximately 36,000 acres of land were distributed to farm settlers either in the form of tenures or through deeds of sale, the number of farmers thus benefited numbering approximately 4,500.

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LATVIA TO ENCOURAGE INCREASED AGRICULTURAL OUTPUT

The Latvian Government during 1937-38 will continue to make every effort to encourage agricultural production and exports, according to a report received from the Berlin office of the Bureau of Agricultural Economics. Farmers are being advised as to the best production methods and means of improving their livestock breeding and rationalization of stock farming. In order to promote mechanization, subsidies are being granted for the purchase of agricultural machinery.

Tractor stations have been established in different parts of the country by the Department of Agriculture. An intensive propaganda

campaign has been carried on to encourage the utilization of fertilizers. It is furthermore planned to promote industrial utilization of potatoes and to organize production on a cooperative basis. Production of starch and flax is also to be further encouraged.

Exports of most agricultural products either are in the hands of Government monopolies (as in the case of grain, flax, and hemp) or are monopolized by Government-controlled stock companies (as in the case of dairy products, meat and meat products, and seeds). Efforts are being made to improve the quality of export products and to regulate prices on the domestic market. Fixed prices are guaranteed by the Government for practically all products sold for export.

A characteristic feature is the establishment of the Central Union of Cooperatives, "Turiba", decided upon in December 1936 and founded in February 1937. This organization assists the Government in enforcing its agrarian and price measures and at the same time supplies farmers with agricultural machinery and implements, foodstuffs, and practically everything used in rural districts. It is also authorized to engage in import and export trade.

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